Division of Transportation
System Development
Northwest Region – Superior Office
1701 North 4th Street
Superior, WI 54880

Scott Walker, Governor
Mark Gottlieb, P.E., Secretary
Internet: www.dot.wisconsin.gov

Telephone: 715-392-7925
Facsimile (FAX): 715-392-7863

E-mail: nwr.dtsd@dot.wi.gov

April 3, 2018

Dan Munson, District Engineer
U.S. Army Corps of Engineers
St. Paul District – Regulatory
180 5th St. East, Suite 700
St. Paul, Minnesota 55101

RE: Water Recourses Application for Project Permit
WisDOT Project No. 1610-08-74; 1610-08-76; 1610-11-73
STH 13 (Park Falls - Mellen)
Morse Rd – Cayuga Rd (1610-08-74); Cayuga Rd – Jefferson Ave (1610-08-76); Soo Line Railroad Bridge B-02-0025 (1610-11-73)
Ashland County, Wisconsin

This cover letter accompanies the completed '*Water Resources Application for Project Permits, Form 3500-0053 (R 3/14)* being submitted by the Wisconsin Department of Transportation (WisDOT) for the above listed project. As required by Section 404 of the Clean Water Act, this permit application is being provided to obtain permit authorization from the U.S. Army Corp of Engineers for the discharge of fill materials into non-navigable Waters of the United States.

Project Description:
These miscellaneous rehabilitation projects involve culvert replacement, slope flattening around the culverts, and bridge deck overlay in order to maintain the safe and efficient movement of traffic on STH 13. Work for these projects will involve: replacing culverts along the project length, replacing permanent signing, installing beam guard, slope grading around culvert ends, concrete bridge deck overlay, and any incidentals needed to complete the work. There is no real estate acquisition as part of this project. A total of 2.24 acres of wetland impacts are expected during construction and will be mitigated at an approved wetland bank site. These projects are scheduled to be let on December 10, 2019 and will be constructed under traffic during the summer of 2020. Coordination with the WisDNR will continue.

Purpose & Need:
These projects are planned on STH 13 in Ashland County to address specific corridor needs as follows. Firstly, the existing culverts are old, (1940s) deteriorating, separating, and in need of replacement in order to maintain the integrity of the road core. Secondly, the existing foreslopes of the roadway are steep (>2:1) and deep in may locations which pose: a safety hazard to the traveling public and a roadway section that becomes less stable over time. Finally, the bridge deck on B-02-0025 is showing signs of deterioration and weathering.

The purpose of 1610-08-74 and 1610-08-76 is to address the old and deteriorating culverts as well as the substandard slopes within the project. These projects are proposed to include culvert replacement and slope grading around the culverts. The proposed slope grading is 4:1 out to the clear zone (18') and 3:1 to match existing ground. Due to financial constraints, slope grading will only occur in close proximity of the culverts. This rehab project will help to manage surface water flow and protect the integrity of the road core.

The purpose of project 1610-11-73 is to address the deteriorating bridge deck by performing a concrete deck overlay.

Travis Jensen, WisDOT Project Leader

Attachments: 1. Water Resources Application for Project Permits, Form 3500-0053
2. Project Location Map, Ashland County
3. DNR Initial Review Letter

4. Signed Section 106 Review Form
5. USFWS Threatened and Endangered Species List
6. Wetland Tracking Form & Wetland Delineation Reports
7. Rare Species Study
8. Proposed plan sheets

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Water Resources Application for Project Permits

Form 3500-053 (R 3/14)

Notice: Pursuant to chs. 30 and 31, Wis. Stats., ch. 281, Wis. Stats, and s. 283.33, Wis. Stats., this form is used to apply for coverage under the state construction site storm water runoff general permit, and to apply for a state or federal permit or certification for waterway and wetland projects or dam projects. This form and any required attachments constitute the permit application. Failure to complete and submit this application form may result in a fine and/or imprisonment or forfeiture under the provisions of applicable laws including s. 283.91, Wis. Stats. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Public Records Laws (ss. 19.31-19.39, Wis. Stats.).

Use this form for (select all that apply):

- ☐ Waterway General Permit
- ☐ Waterway Individual Permit
- ☒ Wetland General Permit
- ☐ Wetland Individual Permit
- ☐ Storm water NOI - New land disturbing construction activity
- ☐ Storm water NOI - Renewal FIN # _____
- ☐ Work in waters of the U.S. (Army Corps of Engineers)
- ☐ Dam projects (DNR-ch. 31, Wis. Stats., or Army Corps of Engineers)

Read all instructions provided before completing. If additional space is needed, attach additional pages.

Section 1: Landowner Information

Landowner Name (first and last name, org. or entity)	Authorized Representative		
Wisconsin DOT	Matt Dickenson		
Mailing Address	**City**	**State**	**ZIP Code**
1701 North 4th Street	Superior	WI	54880
Email Address	**Phone Number (include area code)**	**Alternate Phone Number**	
matthew.dickenson@dot.wi.gov	(715) 395-3022		

Section 2: Applicant Information ☒ Select if same as landowner

Applicant Name (first and last name, org. or entity)	Contact Person		
Mailing Address	**City**	**State**	**ZIP Code**
Email Address	**Phone Number (include area code)**	**Alternate Phone Number**	

Section 3: Primary Project Contact ☒ Select if same as landowner

○ Consultant ○ Contractor ○ Other – Specify: _____

Name (Ind., Org. or Entity)	Contact Person (first and last name)		
Mailing Address	**City**	**State**	**ZIP Code**
Email Address	**Phone Number (include area code)**	**Alternate Phone Number**	

Section 4: Project or Site Location

Project Name	County	
Park Falls - Mellen (Multiple Projects)	Ashland	○ City ◉ Town ○ Village of Morse

Location Address/Description

Along STH 13 in Ashland County, from Spillerberg Creek to Jefferson Ave

Public Land Survey System (PLSS) – Provide the section, range, township information and latitude and longitude in decimal degrees, if available.

_____ ¼ of _____ ¼ of Section _____, Township _____ N, Range _____ ○ E ○ W _____ Latitude _____ Longitude

If this site is not wholly contained in the quarter-quarter section, more description:

This linear roadway project takes place in the following Township, Section, and Range:
T43N R2W S21,16,17,7,8,6;
T44N R2W S31,7,6;
T44N R3W S36,27,24,13,12

Section 5: Pre-Application Resource Screening

Screening your project site for the presence of sensitive natural or cultural resources before applying for a permit can assist you in planning and designing your project to avoid or minimize impacts to these resources. Please identify any screening you have already completed and attach any supporting documentation to your application. If sensitive resources are identified during the permit review, it may result in delays in processing your application and/or project re-design.

Waterways: Provide the name(s) of closest waterbodies:

Wetlands: Has the project site been assessed for the presence of wetlands? ◉ Yes ○ No

If yes, select all sources of information used and attach supporting report or documentation:

- ☒ Wisconsin Wetland Inventory
- ☐ Wetland Locator Tool - http://dnr.wi.gov/topic/wetlands/locating.html
- ☒ Wetland Delineation by consultant
- ☒ NRCS Soils Map
- ☐ DNR Wetland Identification letter - http://dnr.wi.gov/topic/wetlands/identification.html
- ☐ DNR Wetland Confirmation letter - http://dnr.wi.gov/topic/wetlands/identification.html
- ☐ Army Corps of Engineers Concurrence letter
- ☐ Other: _____

Are wetlands proposed to be filled, excavated or disturbed during construction or as part of this project? ◉ Yes ○ No

Endangered or Threatened Resources:

Has the presence of endangered or threatened resources been evaluated according to the protocols developed by the DNR Bureau of Natural Heritage Conservation (BNHC)? dnr.wi.gov/topic/ERReview/ ◉ Yes ○ No

If yes, select how evaluation was completed and attach supporting report or documentation:

- ☒ DNR BNHC ER Review Letter
- ☐ Certified ER Review Letter
- ☐ Broad Incidental Take Permit/Authorization - specify (e.g. No/Low Impact Activities, Grassland and Savanna Management, etc.)

_____

- ☐ Other: _____

Section 6: Project Information (attach additional sheets as necessary)

Duration: 05/01/2020 (Anticipated Project Start Date (mm/dd/yyyy)) 10/01/2020 (Anticipated Project End Date (mm/dd/yyyy))

Photos: Provide photographs of the "before" condition. See Attachment 6, Appendix A. Photos taken July 2016. (Date of Photographs)

Project Purpose and Need: Provide a one to two paragraph description of the proposed project, including land and water alterations and intended use(s) of the project.

See the cover letter submitted with this form for a statement of the project's purpose and need. The cover letter also lists all attachments submitted with this form.

Section 7: Certification and Permission

Certification: I hereby certify that I am the owner or authorized representative of the owner of the property which is the subject of this Permit Application. I certify that the information contained in this form and attachments is true and accurate. I certify that the project will be in compliance with all permit conditions. I understand that failure to comply with any or all of the provisions of the permit may result in permit revocation and a fine and/or imprisonment or forfeiture under the provisions of applicable laws.

Permission: I hereby give the Department permission to enter and inspect the property at reasonable times, to evaluate this notice and application, and to determine compliance with any resulting permit coverage.

Matthew Dickenson — 4/3/18

Signature of Landowner / Authorized Representative – **For Stormwater applications, signature of landowner is required. Authorized representative is not sufficient.** | Date Signed

Matthew J Dickenson — Project Manager

Printed Name of Landowner / Authorized Representative | Title

ASHLAND 2-NW

PROJECT LIMITS (STH 13):
PROJECT ID: 1610-08-06/76
CAYUGA ROAD - JEFFERSON AVE
CULVERTS & SLOPE FLATTENING

PROJECT LIMITS (STH 13):
PROJECT ID: 1610-11-01/70
SOO LINE RAILROAD BRIDGE B-02-0025
CONCRETE DECK OVERLAY

PROJECT LIMITS (STH 13):
PROJECT ID: 1610-08-31/74
MORSE RD- CAYUGA RD
CULVERTS & SLOPE FLATTENING

Madeline Island
Lake Superior
SOUTH CHANNEL
Long Island
Chequamegon Pt.
Chequamegon Bay
Oak Pt.
Ashland
GINGLES
SANBORN
WHITE RIVER
MARENGO
ASHLAND
MORSE
JACOBS
GORDON
SHANAGOLDEN
PEEKSVILLE
AGENDA
CHIPPEWA
Odanah
Bad River Slough
Kakagon Slough
Wood Cr.
Bad River Indian Reservation
Sanborn
Marengo
Mineralville
Highbridge
Penokee
Mellen
Cayuga
Glidden
Shanagolden
Butternut
Town of Eileen
Town of Kelly
Town of Lincoln
Town of Grand View
Town of Namekagon
Town of Spider Lake
Town of Round Lake
Town of Draper
Town of Lake
Town of Eisenstein
Town of Anderson
Town of Knight
Town of Saxon
Town of Gurney
Town of Mercer
Town of Sherman
BAYFIELD CO.
IRON CO.
SAWYER CO.
PRICE CO.

Devils Island
N. Twin Island
S. Twin Island
Rocky Island
Bear Island
Cat Island
Outer Island
Sand Pt.
Otter Island
Ironwood Island
Manitou Island
Trout Pt.
Oak Island
Stockton Island
Quarry Pt.
Quarry Bay
Presque Isle Bay
Presque Isle Pt.
Gull Island
Hermit Island
Michigan Island
Steamboat Pt.
Basswood Island
LA POINTE
Amnicon Pt.
Madeline Island
Big Bay
Sunset Bay
Pt. De Froid
La Pointe
Big Bay Pt.
Chebomnicon Bay
Grants Pt.
APOSTLE ISLANDS
APOSTLE ISLANDS NATIONAL LAKESHORE
BAD RIVER INDIAN RESERVATION
BIG BAY STATE PARK

For boundaries of public hunting and fishing grounds please contact the Department of Natural Resources

REGIONS
NW NE NC SW SE

SECTION NUMBERING OF A TOWNSHIP
6 5 4 3 2 1
7 8 9 10 11 12
18 17 16 15 14 13
19 20 21 22 23 24
30 29 28 27 26 25
31 32 33 34 35 36

LEGEND
Freeway
Multilane Divided
U.S. or State Hwy
County Trunk Hwy
Town Road
Firelane
Railroad
State Trail
Interchange
Highway Separation
Interstate Highway No. 94
U.S. Highway No. 18
State Highway No. 59
County Highway Letter T
State Boundary
County Boundary
Civil Town Boundary
Section Line
Dam
Hospital
Schools
Airport
County Seat
Unincorporated Village
Fish Hatchery
Game Farm
Public Hunt. or Fish. Grds.
Public Camp & Picnic Grds.
Ranger Station
State Park
County Park ... With Facilities
Without Facilities
Rest Area ... Modern Facilities
Viewside ... Rustic Facilities

CIVIL TOWNS
LA POINTE GINGLES SANBORN WHITE RIVER ASHLAND MARENGO MORSE SHANAGOLDEN JACOBS PEEKSVILLE CHIPPEWA AGENDA

MILES OF HIGHWAY
as of Dec. 31, 2012

STATE	121
COUNTY	91
LOCAL ROADS	877
OTHER ROADS	63
TOTAL FOR COUNTY	1,152

Land Area (2000 Census) ... 1,044 sq mi
Population (2000 Census) ... 16,866
County Seat ... Ashland

ASHLAND CO.

DEPARTMENT OF TRANSPORTATION
STATE OFFICE BUILDING
Madison, Wisconsin

SCALE 0 1 2 MILES

Corrected for
JAN. 2014

Base compiled from U.S.G.S. Quadrangles
1:100,000 Series

ASHLAND 2-NW

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
810 W. Maple Street
Spooner WI 54801

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

April 19, 2017

Travis Jensen
DOT NW Region – Superior
1701 N. 4th St.
Superior WI 54880

Subject: **DNR Initial Project Review**:
Project I.D. 1610-08-31
STH 13 (CTH N –Cayuga Rd.)
Project I.D. 1610-11-03
STH 13 over Soo Line and Bad River
Ashland County
Sec. 33, T43N, R2W

Dear Travis:

The Department has received the information you provided for the proposed above-referenced project on March 15th, 2017. According to your proposal, the purpose of this project is a resurfacing. Proposed improvements include some grading and intersection improvements, beam guard replacement, and culvert replacement or extensions, as well as a bridge deck overlay.

Preliminary information has been reviewed by DNR staff for the project under the DOT/DNR Cooperative Agreement. Initial comments on the project as proposed are included below and assume that additional information will be provided that addresses all resource concerns identified.

A. Project-Specific Resource Concerns

Wetlands & Waterways:

There is potential for wetland impacts to occur as a result of this project and therefore wetland impacts must be avoided and/or minimized to the greatest extent possible. Unavoidable wetland impacts must be mitigated for in accordance with the DOT/DNR Cooperative Agreement and the Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline. The Department requests information regarding the amount and type of unavoidable wetland impacts.

Any culvert replacements in wetlands should be placed at an adequate elevation to allow hydrology to equilize and not impound water.

Endangered Resources (ER):

Based upon a review of the Natural Heritage Inventory (NHI) and other Department records on April 19, 2017 no Endangered Resources or suitable habitat that could be impacted by this project are known or likely to occur in the project area or its vicinity.

Fisheries/Stream work

The Bad River, Bad River tributary, Spillerberg, and Hinder Creek are warmwater streams. In order to protect developing fish eggs and substrate for aquatic organisms, all instream work that could adversely impact water quality should be undertaken between June 15th and March 1st.

We understand that no work will take place on Becky Creek and Dryden Creek.

Culverts/Aquatic organism passage

The culverts should be set in such a manner that it does not cause stream fragmentation and allows fish and other aquatic organisms to migrate upstream and downstream during low-flow conditions. This requires that the invert be set an adequate distance **below** the final streambed elevation to allow a natural and continuous streambed condition to occur. A gravel bed substrate may be installed in the culvert to obtain this condition. The desired end-result is that during high-flow conditions, the stream does not cause a large pool (scour hole) to develop at the downstream edge of the structure. Such a pool can act as an impassable barrier to aquatic organisms during low-flow conditions.

Invasive species & VHS

This project has potential to introduce invasive species to a sensitive plant community.

Adequate precautions should be taken to prevent transporting or introducing invasive species via construction equipment, as provided under NR 40, Wis. Administrative Code. This website provides further information and lists those species classified as Restricted or Prohibited under NR 40:
http://dnr.wi.gov/topic/Invasives/classification.html

The Department will work with project managers to help identify specific locations of problem areas across the project site and to recommend preventive measures. The following Best Management Practices (BMPs) for rights-of-way provide a series of measures that will ensure reasonable precautions are taken throughout the stages of construction: http://www.wisconsinforestry.org/

In particular, the following measures will be important for this project:
http://dnr.wi.gov/topic/fishing/documents/vhs/disinfection_protocols.pdf

For work involving waterbodies:

All equipment must be properly cleaned and disinfected to address the spread of invasive species and viruses. Special provisions should require contractors to implement the following measures before and after mobilizing in-water equipment to prevent the spread of Viral Hemorrhagic Septicemia (VHS), Zebra Mussel**,** and other invasive species. Follow **STSP 107-055** Environmental Protection – Aquatic Exotic Species Control, which includes the protocol found here:

For up to date information on invasive species and infested waters go to
http://dnr.wi.gov/lakes/invasives/AISByWaterbody.aspx

Migratory Birds:

Based on the information provided, we are unsure if there is evidence of past migratory bird nesting on the existing structure. **If there is evidence of nesting on the structure**, according to the U.S. Migratory Bird Treaty Act, destruction of swallows and other migratory birds or their nests is unlawful unless a permit has been obtained from the U.S. Fish & Wildlife Service (USFWS). Therefore, the project should either occur only between August 30 and May 1 (non-nesting season) or utilize measures to prevent nesting *(e.g., remove unoccupied nests during the non-nesting season and install barrier netting prior to May 1)*. If netting is used, ensure it is properly maintained, then removed as soon as the nesting period is over. If neither of these options is practicable then the USFWS must be contacted to apply for a depredation permit.

Floodplains

A determination must be made as to whether the project lies within a mapped/zoned floodplain. In order to meet the standards of NR 116, Floodplain Management, a hydraulic and hydrologic analysis must be conducted for the 100-year flood event for any new structures. Plans for the structure must comply with the provisions of the local community's floodplain zoning ordinance. DNR requires submittal of the results of a 100-year flood analysis for the structure(s).

If the new structure(s) will create an increase of 0.01 feet or more in the 100-year backwater condition, DNR requires that all affected upstream landowners be notified, appropriate legal arrangements made, and the local floodplain ordinance must be amended. For areas lying outside mapped/zoned floodplain, DNR may request the results of DOT flow and backwater calculations. For project-specific information, please consult with the Ashland County Zoning Administrator.

Burning

If burning of brush will occur as part of this project, the contractor should be informed that it is illegal to burn materials other than clean wood. In addition, a permit may be required to burn any material during the wildland fire season. For information regarding current fire danger and burning permit restrictions please refer to the DNR Forestry website at http://dnr.wi.gov/topic/ForestFire/restrictions.asp

Burning permits are available through the local DNR ranger or fire warden.

Dredging

The width and depth of the waterways must not be altered. However, a minor amount of dredging necessary to place the structure elements is permissible.

B. Construction Site Considerations:

The following issues may be addressed in the Special Provisions and the contractor will be required to outline their construction methods in the Erosion Control Implementation Plan (ECIP).

Erosion control/Stormwater

Erosion control devices should be specified on the construction plans. All disturbed bank areas should be adequately protected and restored as soon as feasible.

An adequate erosion control implementation plan (ECIP) for the project must be developed by the contractor and submitted to this office for review at least 14 days prior to the preconstruction conference.

If erosion mat is used along stream banks, the department recommends that biodegradable and non-netted mat be used (e.g., Class I Type A Urban, Class I Type B Urban, or Class II Type C). Long-term netted mats may cause animals to become entrapped while moving in and out of the stream. Avoid the use of fine mesh matting that is tied or bonded at the mesh intersection such that the openings in the mesh are fixed in size.

If dewatering is required for any reason, the water must be pumped into a properly selected and sized dewatering basin before the clean/filtered water is allowed to enter any waterway or wetland. The basin must remove suspended solids and contaminants to the maximum extent practicable. A properly designed and constructed dewatering basin must take into consideration maximum pumping volume (gpm or cfs) and the sedimentation rate for soils to be encountered. Do not house any dewatering technique in a wetland.

The contractor should restrict the removal of vegetative cover and exposure of bare ground to the minimum amounts necessary to complete construction. Restoration of disturbed soils should take place as soon as conditions permit. If sufficient vegetative cover will not be achieved because of late season construction, the site must be properly winterized.

All temporary stock piles must be in an upland location and protected with erosion control measures (e.g. silt fence, rock filter-bag berm, etc.). Do not stockpile materials in wetlands, waterways, or floodplains.

Structure Repair

If any full depth deck repair is needed that would have the potential for debris entering the Bad River-
Due to the characteristics of this section of the Bad River, **STSP 203-020**, *Removing Old Structure Over Waterway With Minimal Debris*, will be adequate for this project.

Temporary Stream Channel or Culvert

If a temporary channel is needed for culvert construction, the channel should be lined with plastic or other non-erodible material and weighted down with clean stone. A temporary channel or culvert must be capable of carrying all stream flows during the construction period and must maintain a suitable depth and velocity to allow the passage of migrating fish and aquatic species. Fish that become stranded in dewatered areas or temporary channels should be captured and returned to the active channel immediately.

These requirements should be addressed in the special provisions and require the contractor to outline these construction methods in the ECIP.

Hot Mix Asphalt Plants

If a hot mix asphalt plant is to be utilized it will require an air pollution control permit, and must be able to meet the emission limits and air quality standards of the State of Wisconsin. Portland concrete batch plants that produce or will produce less than 20,000 cubic yards of concrete per month averaged over any 12- consecutive-month period are exempt. under NR 406.04(1)(d) and 407.03(1)(d), Wis. Admin. Code.

Wisconsin has developed general construction permits and general operation permits for asphalt plants and rock crushing facilities. More information on the general permits can be found here:
http://dnr.wi.gov/topic/AirPermits/Options.html

If you are uncertain whether a proposed batch plant will require an air quality construction permit, contact:

Neal Baudhuin
DNR Northern Region - Rhinelander
715-365-8958
neal.baudhuin@wisconsin.gov

The site that is utilized for the asphalt plant must be properly treated to prevent erosion. Appropriately sized stilling basins should be provided that will intercept runoff and allow ample time for the suspended material to settle out before any water is discharged. If any gravel washing is to be completed on-site, we will want to see a plan for erosion control for this site before the project is started.

This project may require a permit from the U.S. Army Corps of Engineers (ACOE). For further details you will need to contact Bill Sande of the ACOE located in the Hayward office, at 715-934-2170. All local, state, and federal permits and/or approvals must be obtained prior to commencing construction activities.

The above comments represent the Department's initial concerns for the proposed project and do not constitute final concurrence. Final concurrence will be granted after review of plans and further consultation if necessary. If any of the concerns or information provided in this letter requires further clarification, please contact this office at 715-635-4228.

Sincerely,

Shawn Haseleu

Shawn Haseleu
Environmental Analysis & Review Specialist

CC: Amy Adrihan, DOT NW Region-Superior
Bill Sande, ACOE

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
810 W. Maple St.
Spooner WI 54801

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

February 23, 2016

Zach Erickson
DOT NW Region – Superior
1701 N. 4th St.
Superior WI 54880

Subject: **DNR Initial Project Review**
Project I.D. 1610-08-06
STH 13 (Cayuga Ave. – Jefferson Ave.)
Ashland County
Sec. 12, T44N, R3W through Sec. 6, T44N, R2W

Dear Zach:

The Wisconsin Department of Natural Resources (DNR) has received the information you provided for the proposed above-referenced project on January 27, 2016. According to your proposal, the purpose of this project is to do miscellaneous improvements along a section of STH 13. Proposed improvements include beam guard work, clearing and grubbing, culvert replacements and extensions, and grading of road shoulders beyond existing toe of slope to create a safer inslope.

Preliminary information has been reviewed by DNR staff for the project under the DNR/DOT (Wisconsin Department of Transportation) Cooperative Agreement. Initial comments on the project as proposed are included below, and assume that additional information will be provided that addresses all resource concerns identified. In addition to the project specific resource concerns highlighted below, it is DNR's expectation that the full range of DOT roadway standards will be applied throughout the design process.

A. Project-Specific Resource Concerns

Wetlands:

There is potential for wetland impacts to occur as a result of this project. Wetland impacts must be avoided and/or minimized to the greatest extent practicable. Unavoidable wetland losses must be compensated for in accordance with the DNR/DOT Cooperative Agreement and the DOT Wetland Mitigation Banking Technical Guideline. Per the Cooperative Agreement, mitigation banking is the preferred compensation option, however DOT and DNR agree that other practicable and ecologically valuable project specific opportunities may be pursued on a case-by-case basis. DNR requests information regarding the amount and type of unavoidable wetland impacts.

Fisheries/Stream Work:

Happy Creek and Tafelski Creek are Class II trout streams. In order to protect developing fish eggs and substrate for aquatic organisms, all instream work that could adversely impact water quality should be undertaken between May 16 and September 15.

Aquatic Connectivity and Culvert Work:

The culverts located at Happy and Tafelski Creeks should be set and sized in such a manner to avoid or minimize impacts to stream morphology, aquatic organism passage, and water quality. This requires that water flow characteristics and streambed sediment in the culvert should closely match the characteristics of the streambed sediment in the natural channel. The invert elevations of the existing and proposed structure(s), the water surface elevations, and the natural streambed elevations upstream and downstream should be specified in the plans. The natural streambed elevations should extend well beyond the zone of influence of the culvert. The invert elevation of the new culvert(s) should be set an adequate distance below the natural streambed elevation, to allow for a natural and continuous streambed condition to occur.

The width and depth of the two waterways must not be altered. However, a minor amount of dredging necessary to place the structure elements is permissible.

Endangered Resources:

Based upon a review of the Natural Heritage Inventory (NHI) and other DNR records dated February 5th, 2016, the following Endangered Resources are known to occur in the project area or its vicinity and could be impacted by this project.

Pale Green Orchid (Platanthera flava var. herbiola), State threatened species

The following measures will be needed: Based on dialogue with Amy Adrihan, the wetland delineation will be conducted along with a plant survey to identify any communities of this species and to determine the potential extent of impacts from the project. If no communities are found on site, there will be no project restrictions related to this species. However, if surveys are conducted and plants are recorded on site, all impacts to the species must be avoided; if take cannot be avoided an incidental take permit/authorization should be applied for.

The DNR Transportation Liaison will initiate coordination with Lisie Kitchel, of the Bureau of Natural Heritage Conservation (NHC).

Invasive Species and Viral Hemorrhagic Septicemia (VHS):

Adequate precautions should be taken to prevent transporting or introducing invasive species via construction equipment, as provided under chapter NR 40 Wis. Adm. Code. Further information on species classified as Restricted or Prohibited under NR 40 can be found at: http://dnr.wi.gov/topic/Invasives/classification.html.

DNR will work with project managers to help identify specific problem areas across the project site and recommend preventive measures. The following Best Management Practices (BMPs) for rights-of-way provide a series of measures that will ensure reasonable precautions are taken throughout the stages of construction: http://www.wisconsinforestry.org/files/invasiveBMPs/TransportationRoW-BMPs.pdf .

Any equipment coming into contact with surface waters must be properly cleaned and disinfected to address the spread of invasive species and viruses. Special provisions must require contractors to implement the following measures before and after mobilizing in-water equipment to prevent the spread of VHS, Zebra Mussel, and other invasive species. Contractors should follow ***STSP 107-055*** *Environmental Protection, Aquatic Exotic Species Control*, or protocol found here: http://dnr.wi.gov/topic/fishing/documents/vhs/disinfection_protocols.pdf .

Additional information on invasive species and infested waters can be found at: http://dnr.wi.gov/lakes/invasives/AISByWaterbody.aspx

Floodplains:

A determination must be made as to whether or not the project lies within a mapped/zoned floodplain. It appears that the area of STH 13 around Cayuga may be mapped floodplain. Floodplain impacts should be assessed and/or quantified and appropriate coordination must be carried out in accordance with the DOT/DNR Cooperative Agreement. Coordination must also occur with the Ashland County Zoning Program.

Burning:
If burning of brush will occur as part of this project, the contractor should be informed that it is illegal to burn materials other than clean wood. It is also illegal to start or maintain fires using oily substances, or other materials prohibited under chapter NR 429, Wis. Adm. Code. All necessary burning permits must be obtained prior to construction, as required under local and state fire protection regulations, in order to comply with NR 429 (Malodorous Emissions & Open Burning) http://docs.legis.wisconsin.gov/code/admin_code/nr/400/429.pdf .

Burning permits are available through the local DNR ranger or fire warden, however other local burning permits maybe required.

B. Project Specific Construction Site Considerations

The following issues should be addressed in the Special Provisions, and the contractor will be required to outline their construction methods in the Erosion Control Implementation Plan (ECIP). An adequate ECIP for the project must be developed by the contractor and submitted to this office for review at least 14 days prior to the preconstruction conference. Erosion control and stormwater measures must adhere to the DNR/DOT Cooperative Agreement, Trans 401, and applicable federal laws.

Erosion Control and Storm Water Management:

- Erosion control devices should be specified on the construction plans. All disturbed bank areas should be adequately protected and restored as soon as feasible.

- If erosion mat is used along stream banks, DNR recommends that biodegradable non-netted mat be used (e.g. Class I Type A Urban, Class I Type B Urban, or Class II Type C). Long-term netted mats may cause animals to become entrapped while moving in and out of the stream. Avoid the use of fine mesh matting that is tied or bonded at the mesh intersection such that the openings in the mesh are fixed in size.

- If dewatering is required for any reason, the water must be pumped into a properly selected and sized dewatering basin before the clean/filtered water is allowed to enter any waterway or wetland. The basin must remove suspended solids and contaminants to the maximum extent practicable. A properly designed and constructed dewatering basin must take into consideration maximum pumping volume (gpm or cfs) and the sedimentation rate for soils to be encountered. Do not house any dewatering technique in a wetland.

- The contractor should restrict the removal of vegetative cover and exposure of bare ground to the minimum amounts necessary to complete construction. Restoration of disturbed soils should take place as soon as conditions permit. If sufficient vegetative cover will not be achieved because of late season construction, the site must be properly winterized.

- All temporary stock piles must be in an upland location and protected with erosion control measures (e.g. silt fence, rock filter-bag berm, etc.). Do not stockpile materials in wetlands, waterways, or floodplains.

Temporary Stream Channel or Culvert:

If a temporary channel is needed for culvert construction, the channel should be lined with plastic or other non-erodible material and weighted down with clean stone. A temporary channel or culvert must be capable of carrying all stream flows during the construction period and must maintain a suitable depth and velocity to allow the passage of migrating fish and aquatic species. Fish that become stranded in dewatered areas or temporary channels should be captured and returned to the active channel immediately.

These requirements should be addressed in the special provisions and require the contractor to outline these construction methods in the ECIP.

This project may require a permit from the U.S. Army Corps of Engineers (ACOE). For further details you will need to contact Bill Sande of the ACOE located in the Hayward office, at 715-934-2170. All local, state, and federal permits and/or approvals must be obtained prior to commencing construction activities.

The above comments represent the DNR's initial concerns for the proposed project and do not constitute final concurrence. Final concurrence will be granted after further review of refined project plans, and additional consultation if necessary. If any of the concerns or information provided in this letter requires further clarification, please contact this office at 715-635-4228, or email at shawn.haseleu@wi.gov.

Sincerely,

Shawn Haseleu

Shawn Haseleu
Environmental Analysis & Review Specialist

cc: Amy Adrihan, DOT NW Region - Superior
Bill Sande, ACOE
Larry Hildebrandt, Ashland County Zoning

16-0063/AS
SHPO

SECTION 106 REVIEW ARCHAEOLOGICAL/HISTORICAL INFORMATION

Wisconsin Department of Transportation
DT1635 6/2014

For instructions, see FDM Chapter 26.

I. PROJECT INFORMATION

☐ Amended Submittal *(include new information only)*

RECEIVED
FEB 0 1 2016
BY:

Project ID 1610-08-31/74	Highway – Street STH 13	County ASHLAND
Project Termini CTH N - CAYUGA ROAD		Region – Office NW REGION - SUPERIOR
Regional Project Engineer – Project Manager MATT DICKENSON		(Area Code) Telephone Number 715-395-3022
Consultant Project Engineer – Project Manager		(Area Code) Telephone Number
Archaeological Consultant Mississippi Valley Archaeology Center		(Area Code) Telephone Number
Architecture/History Consultant Mead & Hunt		(Area Code) Telephone Number
Date of Need		SHSW Number
Return a Signed Copy of This Form to		

II. PROJECT DESCRIPTION

Project Length	Land to be Acquired: Fee Simple	Land to be Acquired: Easement
9.93 miles	2.1 acres	NA acres

Distance as measured from existing centerline	Existing	Proposed	Other Factors	Existing	Proposed
Right-of-Way Width STH 13 - See Attachment			Terrace Width STH 13	NA	NA
Shoulder STH 13	6' (3' Paved) 6' (5' Paved) 8' (5' Paved)	6' (5' Paved)	Sidewalk Width STH 13	NA	NA
Slope Intercept STH 13 - See Attachment			Number of Lanes STH 13	2	2
Edge of Pavement STH 13	15', 17'	17'	Grade Separated Crossing STH 13	Bad River Bridge	Bad River Bridge
Back of Curb Line STH 13	NA	NA	Vision Triangle acres	NA	NA
Realignment	NA	NA	Temporary Bypass acres		
Other – List:			Stream Channel Change	☐ Yes	☒ No
Attach Map(s) that Depict "Maximum" Impacts.	☒ Yes	☐ No	Tree Topping and/or Grubbing	☒ Yes	☐ No

Brief Narrative Project Description: Include all ground disturbing activities. For archaeology, include plan view map indicating the maximum area of ground disturbance and/or new right-of-way, whichever is greater. Include all temporary, limited and permanent easements. For amendments (e.g. design refinements, scope changes, etc) description should only include new/added project actions and materials.

☒ Add continuation sheet, if needed.

SECTION 106 REVIEW ARCHAEOLOGICAL/HISTORICAL INFORMATION *(continued)*

Wisconsin Department of Transportation DT1635

III. CONSULTATION

How has notification of the project been provided to:

☒ Property Owners	☒ Historical Societies/Organizations	☒ Native American Tribes
☐ Public Information Meeting Notice	☐ Public Information Meeting Notice	☐ Public Info. Mtg. Notice
☒ Letter - Required for Archaeology	☒ Letter	☒ Letter
☐ Telephone Call	☐ Telephone Call	☐ Telephone Call
☐ Other:	☐ Other:	☐ Other:

Attach one copy of the base letter, list of addresses and comments received. For history include telephone memos as appropriate.

IV. AREA OF POTENTIAL EFFECTS – APE

ARCHAEOLOGY: Area of potential effect for archaeology is the existing and proposed ROW, temporary and permanent easements. Agricultural practices do not constitute a ground disturbance exemption.

HISTORY: Describe the area of potential effects for buildings/structures.

The APE for this project includes all properties adjacent to the project corridor that may be directly or indirectly affected by the project.

V. PHASE I – ARCHAEOLOGICAL OR RECONNAISSANCE HISTORY SURVEY NEEDED

ARCHAEOLOGY	HISTORY
☒ Archaeological survey **is needed**	☒ Architecture/History survey **is needed**
☐ Archaeological survey **is not needed**	☐ Architecture/History survey **is not needed**
☐ Screening list (date)	☐ Screening list (date)
☐ Burial site in project area, Wis. Stat. 157.70 applies	☐ No structures or buildings of any kind within APE
	☐ Non-Survey History Documentation attached

VI. SURVEY COMPLETED

ARCHAEOLOGY	HISTORY
☒ **NO** archaeological sites(s) identified – ASFR attached	☐ **NO** buildings/structures identified – Report attached
☐ **NO** potentially eligible site(s) in project area – Phase I Report attached	☒ Potentially eligible buildings/structures identified in the APE – Report attached
☐ Potentially eligible site(s) identified-Phase I Report attached	☒ Avoided through redesign
☐ Avoided through redesign	☐ Previously listed/eligible property identified in the APE – Report attached
☐ Phase II conducted – go to VII (Evaluation)	
☐ Phase I Report – Cemetery/cataloged burial documentation	

VII. DETERMINATION OF ELIGIBILITY (EVALUATION) COMPLETED

☐ No arch site(s) eligible for NRHP – Phase II Report attached	☐ No buildings/structure(s) eligible for NRHP – DOE attached
☐ Arch site(s) eligible for NRHP – Phase II Report attached	☐ Building/structure(s) eligible for NRHP – DOE attached
☐ Site(s) eligible for NRHP – DOE attached	

VIII. COMMITMENTS/SPECIAL PROVISIONS – must be included with special provisions language

☐ Per Wis. Stat. 157.70 obtain burial authorization from WHS one year prior to construction.

IX. PROJECT DECISION

☐ No historic properties (historical or archaeological) in the APE.

☒ No historic properties (historical or archaeological) affected.

☐ Historic properties (historical and/or archaeological) may be affected by project;

- ☐ Go to Step 4: Assess affects and begin consultation on affects.
- ☐ Documentation for Determination of No Adverse Effects is included with this form. WisDOT has concluded that this project will have No Adverse Effect on historic properties. Signature by SHPO below indicates SHPO concurrence in the DNAE and concludes the Section 106 Review process for this project.

X. SIGNATURES

X _____ 7/29/15
(Regional Project Manager Signature) (Date – m/d/yy)

X _____ 1/28/16
(WisDOT Historic Preservation Officer Signature) (Date – m/d/yy)

X _____ Feb 17 2016
(State Preservation Officer Signature) (Date – m/d/yy)

X _____
(Consultant Project Manager (Date –

Section 106 Project Description

Project Number: 1610-08-31/74
Project Name: Park Falls – Mellen
Highway: STH 13
Project Limits: CTH N – Cayuga Rd

This project includes:

- 2.5" surface mill with 3.25" HMA overlay
    - 12' driving lanes
    - 6' shoulder (5' paved)
- Replace beam guard
- Replace / rehab existing culvert pipes
- Replace permanent signing
- Realign / reconstruct the intersections at Linden Rd (Sta 487+75), Thole Rd (521+30), and Morse Rd (518+00)to 90 degrees.
- Realigning / reconstructing the intersection of STH 13 and STH 77 (Sta 251+50)
- Construct new Schoch Road cut off (Sta 426+25) across from Morse Road
- Slope grade the northern 4.5 mile segment.
    - The existing slopes on this segment are very steep (2:1) and many are quite deep.
    - The proposed plan is to grade the foreslope at 5:1 out to 34.0' (Clear zone distance) from the centerline. From there, the foreslope will continue at a slope of either 3:1 or 2.4:1 until the slope intercept.

**See Plans

16-0999/AS

RECEIVED
SEP 23 2016
BY:

SHPO

SECTION 106 REVIEW ARCHAEOLOGICAL/HISTORICAL INFORMATION

Wisconsin Department of Transportation
DT1635 6/2014

For instructions, see FDM Chapter 26.

I. PROJECT INFORMATION

☐ Amended Submittal *(include new information only)*

Project ID	Highway – Street	County
1610-08-06/76	STH 13	Ashland
Project Termini		**Region – Office**
Cayuga Road - Jefferson Ave (STA. 625+00 - 927+00)		Northwest Region - Superior
Regional Project Engineer – Project Manager		**(Area Code) Telephone Number**
Matthew Dickenson, PE		(715) 395-3022
Consultant Project Engineer – Project Manager		**(Area Code) Telephone Number**
Archaeological Consultant		**(Area Code) Telephone Number**
The University of Wisconsin - Milwaukee		(414) 229-3078
Architecture/History Consultant		**(Area Code) Telephone Number**
CORRE, Inc. Robert Newbery and Megan Beer-Pemberton		(608) 826-6135
Date of Need		**SHSW Number**
September 2016		
Return a Signed Copy of This Form to		
Travis Jensen, NWR - Superior		

II. PROJECT DESCRIPTION

Project Length	Land to be Acquired: Fee Simple	Land to be Acquired: Easement
5.72 miles	0.3 acres	0 acres

Distance as measured from existing centerline	Existing	Proposed	Other Factors	Existing	Proposed
Right-of-Way Width Refer to attached plans.	Varies, 85'-142'	See Section IV	Terrace Width	n/a	n/a
Shoulder	18'	18'	Sidewalk Width	n/a	n/a
Slope Intercept	34'	100'	Number of Lanes	2	2
Edge of Pavement	17'	17'	Grade Separated Crossing	n/a	n/a
Back of Curb Line	n/a	n/a	Vision Triangle acres	n/a	n/a
Realignment	n/a	n/a	Temporary Bypass acres	n/a	n/a
Other – List:	n/a	n/a	Stream Channel Change	☐ Yes	☒ No
Attach Map(s) that Depict "Maximum" Impacts.	☒ Yes	☐ No	Tree Topping and/or Grubbing	☒ Yes	☐ No

Brief Narrative Project Description: Include all ground disturbing activities. For archaeology, include plan view map indicating the maximum area of ground disturbance and/or new right-of-way, whichever is greater. Include all temporary, limited and permanent easements. For amendments (e.g. design refinements, scope changes, etc) description should only include new/added project actions and materials.

- Project Description
  - Replace / extend / install guardrail as necessary;
  - Replace / rehab existing culvert pipes along corridor
  - Grading will occur over the length of the project because the existing slopes (1.5:1 – 2:1) are very steep. Many of the fill slopes are deep as well. Grading will include:
    - Grade the foreslope at 5:1 out to 34' from the centerline (Clear zone = 22'). From the clear zone point, the new surface will match the existing ground at a slopes between 2.5:1 and 3:1.
    - If the proposed slope intercepts extend beyond the existing ROW, beam guard will be installed with a narrower cross section so that we can refrain from taking ROW as well as keeping the traveling public safe.

☐ Add continuation sheet, if needed.

SECTION 106 REVIEW ARCHAEOLOGICAL/HISTORICAL INFORMATION *(continued)*

Wisconsin Department of Transportation DT1635

III. CONSULTATION

How has notification of the project been provided to:

☒ Property Owners
- ☐ Public Information Meeting Notice
- ☒ Letter - Required for Archaeology
- ☐ Telephone Call
- ☐ Other:

☒ Historical Societies/Organizations
- ☐ Public Information Meeting Notice
- ☒ Letter
- ☐ Telephone Call
- ☐ Other:

☒ Native American Tribes
- ☐ Public Info. Mtg. Notice
- ☒ Letter
- ☐ Telephone Call
- ☐ Other:

Attach one copy of the base letter, list of addresses and comments received. For history include telephone memos as appropriate.

IV. AREA OF POTENTIAL EFFECTS – APE

ARCHAEOLOGY: Area of potential effect for archaeology is the existing and proposed ROW, temporary and permanent easements. Agricultural practices do not constitute a ground disturbance exemption.

HISTORY: Describe the area of potential effects for buildings/structures.

The Area of Potential Effects (APE) for this project included all propoerties immediately adjacent to existing and proposed right of way along STH 13 beginning approximatley 200' south of the intersectio of Cayuga Road, continuing north, terminating 100' south of the intersection of jefferson Avenue in Mellen, WI (T44N, R2W, Section 6). The existing highway right of way varies throughout the project between 85' and 142'. The proposed right of way is limited to a small areas located on the north end of the porject wehre existing Right of Way abruptly recuded from 100' to 33' on the west of the highway as it enters the City of Mellen. The proposed right of way would gradually taper from 100' to 33' over an approximate distance of 300', similar to the existing right of way on the east side of the highway. The Right of Way taper down to 33' would occur by the end of the project at Station 927+00, approximately 150' south of the intersection of Jefferson Avenue.

V. PHASE I – ARCHAEOLOGICAL OR RECONNAISSANCE HISTORY SURVEY NEEDED

ARCHAEOLOGY	HISTORY
☒ Archaeological survey **is needed**	☒ Architecture/History survey **is needed**
☐ Archaeological survey **is not needed**	☐ Architecture/History survey **is not needed**
☐ Screening list (date)	☐ Screening list (date)
☐ Burial site in project area, Wis. Stat. 157.70 applies	☐ No structures or buildings of any kind within APE
	☐ Non-Survey History Documentation attached

VI. SURVEY COMPLETED

ARCHAEOLOGY	HISTORY
☒ **NO** archaeological sites(s) identified – ASFR attached	☒ **NO** buildings/structures identified – Report attached
☐ **NO** potentially eligible site(s) in project area – Phase I Report attached	☐ Potentially eligible buildings/structures identified in the APE – Report attached
☐ Potentially eligible site(s) identified-Phase I Report attached	☐ Avoided through redesign
☐ Avoided through redesign	☐ Previously listed/eligible property identified in the APE – Report attached
☐ Phase II conducted – go to VII (Evaluation)	
☒ ~~Phase I~~ Report – Cemetery/cataloged burial documentation	

VII. DETERMINATION OF ELIGIBILITY (EVALUATION) COMPLETED

☐ No arch site(s) eligible for NRHP – Phase II Report attached	☐ No buildings/structure(s) eligible for NRHP – DOE attached
☐ Arch site(s) eligible for NRHP – Phase II Report attached	☐ Building/structure(s) eligible for NRHP – DOE attached
☐ Site(s) eligible for NRHP – DOE attached	

VIII. COMMITMENTS/SPECIAL PROVISIONS – must be included with special provisions language

☐ Per Wis. Stat. 157.70 obtain burial authorization from WHS one year prior to construction.

IX. PROJECT DECISION

☒ No historic properties (historical or archaeological) in the APE.

☐ No historic properties (historical or archaeological) affected.

☐ Historic properties (historical and/or archaeological) may be affected by project;
- ☐ Go to Step 4: Assess affects and begin consultation on affects.
- ☐ Documentation for Determination of No Adverse Effects is included with this form. WisDOT has concluded that this project will have No Adverse Effect on historic properties. Signature by SHPO below indicates SHPO concurrence in the DNAE and concludes the Section 106 Review process for this project.

X. SIGNATURES

X Matthew DeMeuse 8/3/16

(Regional Project Manager Signature) (Date – m/d/yy)

X Steven W. Ulrich 9/20/16

(WisDOT Historic Preservation Officer Signature) (Date – m/d/yy)

X

(State Preservation Officer Signature) (Date – m/d/yy)

Oct 3 2016

X

(Consultant Project Manager Signature) (Date – m/d/yy)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Green Bay Ecological Services Field Office
2661 SCOTT TOWER DRIVE
NEW FRANKEN, WI 54229
PHONE: (920)866-1717 FAX: (920)866-1710

Consultation Code: 03E17000-2016-SLI-0570 April 20, 2016
Event Code: 03E17000-2016-E-00557
Project Name: STH 13 Morse Rd - Jefferson Ave: 1610-08-31(74), 1610-08-06(76), 1610-11-01(~~71~~) **(70)**

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Service if they determine their project “may affect” listed species or critical habitat.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website http://ecos.fws.gov/ipac/ at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - http://www.fws.gov/midwest/endangered/section7/s7process/index.html. This website contains step-by-step instructions which will help you determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height (*e.g.*, communication towers)**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*) and Migratory Bird Treaty Act *(*16 U.S.C. 703 *et seq*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: STH 13 Morse Rd - Jefferson Ave: 1610-08-31(74), 1610-08-06(76), 1610-11-01(~~71~~) **(70)**

Official Species List

Provided by:

Green Bay Ecological Services Field Office
2661 SCOTT TOWER DRIVE
NEW FRANKEN, WI 54229
(920) 866-1717

Consultation Code: 03E17000-2016-SLI-0570
Event Code: 03E17000-2016-E-00557

Project Type: TRANSPORTATION

Project Name: STH 13 Morse Rd - Jefferson Ave: 1610-08-31(74), 1610-08-06(76), 1610-11-01(71)
Project Description: The two projects 1610-08-31(74) and 1610-08-06(76) are being planned to address steep and deep slopes (1.5H:1V – 2H:1V) along State Trunk Highway (STH) 13 between Morse Road, located north of the community of Glidden, and Jefferson Avenue, located on the south side of the town of Mellen. Project 1610-08-31(74) addresses the southern portion of these limits, and Project 1610-08-06(76) addresses the north, with Cayuga Road being the approximate dividing point between the two. In addition to slope flattening, these projects will include culvert and guardrail rehabilitation, as well as replacement of permanent signing. During the 2021 construction season, the same segment of STH 13 described above will be resurfaced under project 1610-11-01(71).

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: The coordinates are too numerous to display here.

Project Counties: Ashland, WI

United States Department of Interior
Fish and Wildlife Service

Project name: STH 13 Morse Rd - Jefferson Ave: 1610-08-31(74), 1610-08-06(76), 1610-11-01(~~71~~) **(70)**

Endangered Species Act Species List

There are a total of 4 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
Piping Plover *(Charadrius melodus)* Population: Great Lakes watershed	Endangered		
Mammals			
Canada Lynx *(Lynx canadensis)* Population: Contiguous U.S. DPS	Threatened	Final designated	
Gray wolf *(Canis lupus)* Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico.	Endangered		
Northern long-eared Bat *(Myotis septentrionalis)*	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Division of Transportation
System Development
Northwest Region – Superior Office
1701 North 4th Street
Superior, WI 54880

Scott Walker, Governor
Mark Gottlieb, P.E., Secretary
Internet: www.dot.wisconsin.gov

Telephone: 715-392-7925
Facsimile (FAX): 715-392-7863

E-mail: nwr.dtsd@dot.wi.gov

August 12, 2016

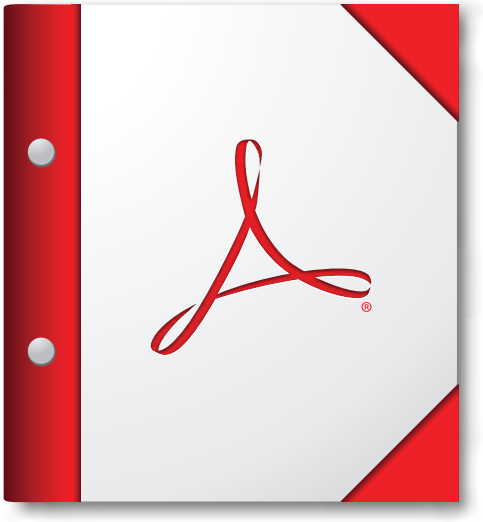
Project	IPaC Consultation Code:
1610-08-31(74) 1610-08-06(76) 1610-11-01(70)	03E17000-2016-SLI-0570

Effect Determination for Federally Listed Species

WDNR reviewed their Natural Heritage Inventory database on March 20, 2015, February 23, 2016 and May 27, 2016, respectively. In that review, WDNR determined that there are no known NLEB maternity roost trees or known hibernacula within ¼ of the proposed project.

Effect determination for other federally listed species identified in the Official Species List:

Species Common Name	Species Scientific Name	Effect Determination	Justification
Piping Plover	Charadrius melodus	No effect	No suitable habitat present within the project area
Canada Lynx	Lynx canadensis	No effect	No suitable habitat present within the project area
Gray Wolf	Canis lupis	No effect	No suitable habitat present within the project area
Northern long-eared Bat	Myotis septentrionalis	May Affect, Not Likely to Adversely Affect	See notes above.



For the best experience, open this PDF portfolio in Acrobat X or Adobe Reader X, or later.

Get Adobe Reader Now!

Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form

Federal agencies should use this form for the optional streamlined consultation framework for the northern long-eared bat (NLEB). This framework allows federal agencies to rely upon the U.S. Fish and Wildlife Service's (USFWS) January 5, 2016, intra-Service Programmatic Biological Opinion (BO) on the final 4(d) rule for the NLEB for section 7(a)(2) compliance by: (1) notifying the USFWS that an action agency will use the streamlined framework; (2) describing the project with sufficient detail to support the required determination; and (3) enabling the USFWS to track effects and determine if reinitiation of consultation is required per 50 CFR 402.16.

This form is not necessary if an agency determines that a proposed action will have no effect to the NLEB or if the USFWS has concurred in writing with an agency's determination that a proposed action may affect, but is not likely to adversely affect the NLEB (i.e., the standard informal consultation process). Actions that may cause prohibited incidental take require separate formal consultation. Providing this information does not address section 7(a)(2) compliance for any other listed species.

Information to Determine 4(d) Rule Compliance:	**YES**	**NO**
1. Does the project occur wholly outside of the WNS Zone[1]?	☐	☒
2. Have you contacted the appropriate agency[2] to determine if your project is near known hibernacula or maternity roost trees?	☒	☐
3. Could the project disturb hibernating NLEBs in a known hibernaculum?	☐	☒
4. Could the project alter the entrance or interior environment of a known hibernaculum?	☐	☒
5. Does the project remove any trees within 0.25 miles of a known hibernaculum at any time of year?	☐	☒
6. Would the project cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot radius from the maternity roost tree from June 1 through July 31.	☐	☒

You are eligible to use this form if you have answered yes to question #1 **or** yes to question #2 **and** no to questions 3, 4, 5 and 6. The remainder of the form will be used by the USFWS to track our assumptions in the BO.

Agency and Applicant[3] (Name, Email, Phone No.):

Amy Adrihan
Wisconsin Department of Transportation
1701 N 4th Street
Superior, Wisconsin 54880
Amy.Adrihan@dot.wi.gov
(715) 392-7972

[1] http://www.fws.gov/midwest/endangered/mammals/nleb/pdf/WNSZone.pdf
[2] See http://www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html
[3] If applicable - only needed for federal actions with applicants (e.g., for a permit, etc.) who are party to the consultation.

Project Name: STH 13 (Park Falls – Mellen), Ashland County

Construction Year 2020: Slope flattening/grading, rehabilitating culverts and guardrail

Project ID: 1610-08-31(74)
Project Limits: Morse Road – Cayuga Road

Project ID: 1610-08-06(76)
Project Limits: Cayuga Road – Jefferson Avenue

Construction Year 2021: Asphaltic resurfacing

Project ID: 1610-11-01(70)
Project Limits: Morse Road – Jefferson Avenue

Project Location (include coordinates if known):

Project ID 1610-08-31(74):
Begin (46°11'44.2"N, 90°37'32.2"W) – End (46°14'40.7"N, 90°40'40.8"W)

Project ID: 1610-08-06(76):
Begin (46°14'40.7"N, 90°40'40.8"W) – End (46°19'15.2"N, 90°39'38.5"W)

Project ID: 1610-11-01(70):
Begin (46°11'44.2"N, 90°37'32.2"W) – End (46°19'15.2"N, 90°39'38.5"W)

Refer to the attached Ashland County map illustrating the individual project boundaries.

Basic Project Description (provide narrative below or attach additional information):

The three proposed projects listed above are located in Ashland County, Wisconsin on State Trunk Highway (STH) 13 between the communities of Glidden and Mellen. Projects 1610-08-31(74) and 1610-08-06(76) are being planned to address steep and deep slopes (1.5H:1V – 2H:1V) along STH 13 between Morse Road (southern limit), and Jefferson Avenue, located on the south side of the town of Mellen. Project 1610-08-31(74) addresses the southern portion of these limits, and Project 1610-08-06(76) addresses the north, with Cayuga Road being the approximate dividing point between the two. In addition to slope flattening, these projects will include culvert and guardrail rehabilitation, as well as replacement of permanent signing. These projects are planned to be completed concurrently during the 2020 construction season. During the 2021 construction season, the same segments of STH 13 described above will be resurfaced under project 1610-11-01(71). Ground disturbance and tree removal and grubbing activities will be limited to the two projects completed in the 2020 construction season; work associated with the subsequent resurfacing project 1610-11-01(71) will be limited to the existing pavement surface.

General Project Information	YES	NO
Does the project occur within 0.25 miles of a known hibernaculum?	☐	☒
Does the project occur within 150 feet of a known maternity roost tree?	☐	☒
Does the project include forest conversion[4]? (if yes, report acreage below)	☒	☐
Estimated total acres of forest conversion	4.6	
If known, estimated acres[5] of forest conversion from April 1 to October 31	4.6	
If known, estimated acres of forest conversion from June 1 to July 31[6]	4.6	
Does the project include timber harvest? (if yes, report acreage below)	☐	☒
Estimated total acres of timber harvest		
If known, estimated acres of timber harvest from April 1 to October 31		
If known, estimated acres of timber harvest from June 1 to July 31		
Does the project include prescribed fire? (if yes, report acreage below)	☐	☒
Estimated total acres of prescribed fire		
If known, estimated acres of prescribed fire from April 1 to October 31		
If known, estimated acres of prescribed fire from June 1 to July 31		
Does the project install new wind turbines? (if yes, report capacity in MW below)	☐	☒
Estimated wind capacity (MW)		

Agency Determination:

By signing this form, the action agency determines that this project may affect the NLEB, but that any resulting incidental take of the NLEB is not prohibited by the final 4(d) rule.

If the USFWS does not respond within 30 days from submittal of this form, the action agency may presume that its determination is informed by the best available information and that its project responsibilities under 7(a)(2) with respect to the NLEB are fulfilled through the USFWS January 5, 2016, Programmatic BO. The action agency will update this determination annually for multi-year activities.

The action agency understands that the USFWS presumes that all activities are implemented as described herein. The action agency will promptly report any departures from the described activities to the appropriate USFWS Field Office. The action agency will provide the appropriate USFWS Field Office with the results of any surveys conducted for the NLEB. Involved parties will promptly notify the appropriate USFWS Field Office upon finding a dead, injured, or sick NLEB.

Signature: Amy J Adrihan Date Submitted: 08/12/2016

[4] Any activity that temporarily or permanently removes suitable forested habitat, including, but not limited to, tree removal from development, energy production and transmission, mining, agriculture, etc. (see page 48 of the BO).
[5] If the project removes less than 10 trees and the acreage is unknown, report the acreage as less than 0.1 acre.
[6] If the activity includes tree clearing in June and July, also include those acreage in April to October.

Wisconsin Department of Transportation
Division of Transportation System Development
NW Region

WETLAND IMPACT TRACKING FORM

This form must be filled out for all projects.

Return This Completed Form to:
Amy Adrihan
Environmental Coordinator
WisDOT - NW Region
1701 N 4th Street
Superior, WI 54880
Phone: (715) 392-7972
amy.adrihan@dot.wi.gov

Please Complete All Information Highlighted In Yellow

WisDOT Regional Environmental Coordinator (REC) Will Complete Sections Highlighted In Green

Project Design I.D. #:	1610-08-31/06
Project Construction I.D. #:	1610-08-74/76
Hwy/ Project Title :	Park Falls - Mellen
	Morse - Cayuga Rd; Cayuga Rd - Jefferson Ave
County :	Ashland
Construction Year :	2020
Date this form is completed:	12/13/2017
Date this form is approved:	4/2/2018

	NAME	PHONE	EMAIL
This Form Prepared by:	Travis Jensen	715-395-3025	travis.jensen@dot.wi.gov
This Form Approved by:	Amy Adrihan	715-392-7972	amy.adrihan@dot.wi.gov

Is a discharge of dredged or fill material into wetlands anticipated?

NO [ ] ➡ **Form complete; no further information is required (RETURN FORM TO REC).**

YES [X] ➡ **1. Complete remainder of form:**

- After final wetland impacts are determined, complete yellow portions on both pages of this form and submit to REC for finalization and approval.

2. Include this final APPROVED form with DNR 401 and USACE 404 permit applications.

3. After receiving USACE 404 permit and DNR 401 final concurrence, return this final APPROVED form to REC along with copy of USACE 404 permit, DNR 401 final concurrence letter, and D size plan sheet showing wetland impact areas.

	NAME	PHONE	EMAIL
Wetland Delineation/ Determination completed by:	Cardno Staff	608-661-2955	www.cardno.com
	QUALIFICATIONS		

Describe methods used to avoid and minimize impacts to wetlands:

Was professional discretion used to determine debit ratio?

No [ ]
Yes [ ] ➡ Describe discretionary rationale below:

WETLAND IMPACT / REPLACEMENT SUMMARY

Type Impacted	Area Impacted	Type Mitigated	Area Mitigated
AB	-	AB	-
BOG	-	BOG	-
DM	-	DM	-
M	1.60	M	1.88
RPE	0.35	RPE	-
RPF	0.01	RPF	-
SM	0.21	SM	-
SS	0.05	SS	0.01
WS	0.03	WS	0.44
AB(D)	-	**TOTAL**	**2.33**
DM(D)	-		
M(D)	-		
RPE(D)	-		
RPF(D)	-		
SM(D)	-		
SS(D)	-		
WS(D)	-		
TOTAL	**2.25**		

Wisconsin Department of Transportation

Project Design ID #: 1610-08-31/74, 06/76

Division of Transportation System Development
NW Region

WETLAND IMPACT TRACKING FORM - PAGE 2
DETAILED TABLE OF WETLAND IMPACTS

Directions to complete Page 2:

1. One location may be made up of several different wetland types. List each type of wetland impacted from each location on the project corridor separately in the table below.
2. The Environmental Coordinator will enter the appropriate ratio and bank information.
3. Use Department of Transportation Wetland Classification System: http://roadwaystandards.dot.wi.gov/standards/fdm/24-05-010att.pdf#fd24-5a10.2
4. **Total areas should be reported to the nearest 0.01 acre. Any impacts less than 0.01 acre should be rounded up to 0.01 acre.**

						DOT REC will provide this information.		
Point #	Wetland ID	Impact Location (project station)	Lat/Long	Type Impacted	Area Impacted	Debit Ratio	Type Mitigated	Area Mitigated
1	W-02A	STH 13 STA 439+00 - 440+50	Lat: 46.206533 Long: -90.630170	WS	0.030	1.000	M	0.030
2	W-02-B	STH 13 STA 392+00 - 392+25	Lat: 46.195702 Long: -90.625367	SS	0.010	1.000	M	0.010
3	W-04-A	STH 13 STA 459+00 - 467+75	Lat: 46.198460 Long: -90.625665	M	0.130	1.000	M	0.130
4	W-05-A	STH 13 STA 471+25 - 473+25	Lat: 46.213147 Long: -90.642193	SS	0.030	1.000	M	0.030
5	W-07-A	STH 13 STA 498+75 - 510+75	Lat: 46.217814 Long: -90.650567	M	0.080	1.000	M	0.080
6	W-07-B	STH 13 STA 611+00 - 615+75	Lat: 46.242961 Long: -90.675702	M	0.390	1.000	M	0.390
7	W-08-A	STH 13 STA 527+75 - 530+00	Lat: 46.223078 Long: -90.660099	M	0.090	1.000	M	0.090
8	W-09-B	STH 13 STA 615+45 - 615+65	Lat: 46.243143 Long: -90.676352	M	0.005	1.000	M	0.005
9	W-10-B	STH 13 STA 611+25 - 611+75	Lat: 46.240400 Long: -90.672983	M	0.005	1.000	M	0.005
10	W-11-A	STH 13 STA 555+75 - 557+25	Lat: 46.227766 Long: -90.668081	SM	0.010	1.000	M	0.010
11	W-12-A	STH 13 STA 564+25 - 565+00	Lat: 46.229788 Long: -90.669600	M	0.010	1.000	M	0.010
12	W-14-B	STH 13 STA 411+10 - 412+75	Lat: 46.200922 Long: -90.626214	M	0.010	1.000	M	0.010
13	W-15-A	STH 13 STA 563+75 - 565+00	Lat: 46.229683 Long: -90.669916	M	0.020	1.000	M	0.020
14	W-16-A	STH 13 STA 556+50 - 558+25	Lat: 46.227904 Long: -90.668726	SM	0.020	1.000	M	0.020
15	W-18-A	STH 13 STA 526+25 - 529+25	Lat: 46.222701 Long: -90.660109	RPE	0.020	1.200	WS	0.024
16	W-20-A	STH 13 STA 507+00 - 510+75	Lat: 46.219332 Long: -90.654002	M	0.060	1.000	M	0.060
17	W-22-A	STH 13 STA 478+00 - 478+50	Lat: 46.213873 Long: -90.644247	M	0.010	1.000	M	0.010
18	W-23-A	STH 13 STA 460+50 - 472+00	Lat: 46.212441 Long: -90.641411	M	0.150	1.000	M	0.150
19	W-24-A	STH 13 STA 456+00 - 456+50	Lat: 46.210277 Long: -90.637581	M	0.010	1.000	M	0.010

20	W-25-A	STH 13 STA 444+50 - 448+00	Lat: 46.209453 Long: -90.636059	SM	0.030	1.000	M	0.030
21	W-25-A	STH 13 STA 433+75 - 444+00	Lat: 46.207984 Long: -90.633544	SM	0.130	1.000	M	0.130
22	W-26-A	STH 13 STA 418+75 - 420+50	Lat: 46.203429 Long: -90.626934	SM	0.020	1.000	M	0.020
23	W-01-A	STH 13 STA 918+90 - 924+00 LT	Lat: 46.320084 Long: -90.661174	M	0.025	1.000	M	0.025
24	W-01-B	STH 13 STA 632+00 - 636+50 RT	Lat: 46.246179 Long: -90.679036	M	0.110	1.000	M	0.110
25	W-02-A	STH 13 STA 885+25 - 886+25	Lat: 46.311654 Long: -90.669924	M	0.020	1.000	M	0.020
26	W-04-A	STH 13 STA 846+00 - 847+75	Lat: 46.303104 Long: -90.679020	RPE	0.020	1.200	WS	0.024
27	W-04-B	STH 13 STA 668+00 - 671+25	Lat: 46.255085 Long: -90.679615	M	0.030	1.000	M	0.030
28	W-05-B	STH 13 STA 676+00 - 676+50	Lat: 46.258089 Long: -90.679592	M	0.010	1.000	M	0.010
29	W-06-B	STH 13 STA 694+50 - 695+50	Lat: 46.263414 Long: -90.679650	M	0.020	1.000	M	0.020
30	W-07-A	STH 13 STA 834+50 - 835+75	Lat: 46.300607 Long: -90.681736	M	0.010	1.000	M	0.010
31	W-07-B	STH 13 STA 713+25 - 720+50	Lat: 46.269440 Long: -90.679688	RPE	0.140	1.200	WS	0.168
32	W-08-A	STH 13 STA 831+25 - 832+25	Lat: 46.299610 Long: -90.682776	M	0.020	1.000	M	0.020
33	W-09-A	STH 13 STA 823+75 - 824+25	Lat: 46.298064 Long: -90.684461	M	0.010	1.000	M	0.010
34	W-09-B	STH 13 STA 732+00 - 735+50	Lat: 46.274015 Long: -90.679755	M	0.030	1.000	M	0.030
35	W-10-A	STH 13 STA 806+50 - 807+00	Lat: 46.293249 Long: -90.685984	RPF	0.010	1.300	WS	0.013
36	W-12-A	STH 13 STA 785+00 - 786+00	Lat: 46.287735 Long: -90.683618	M	0.010	1.000	M	0.010
37	W-13-B	STH 13 STA 766+50 - 768+00	Lat: 46.282334 Long: -90.680474	RPE	0.020	1.200	WS	0.024
38	W-14-A	STH 13 STA 770+50 - 771+25	Lat: 46.283667 Long: -90.681646	M	0.010	1.000	M	0.010
39	W-14-B	STH 13 STA 771+25 - 772+00	Lat: 46.284078 Long: -90.681492	RPE	0.020	1.200	WS	0.024
40	W-15-A	STH 13 STA 766+00 - 767+25	Lat: 46.282817 Long: -90.681255	M	0.010	1.000	M	0.010
41	W-17-B	STH 13 STA 784+50 - 788+00	Lat: 46.287989 Long: -90.683309	M	0.020	1.000	M	0.020
42	W-19-A	STH 13 STA 732+50 - 733+50	Lat: 46.273641 Long: -90.680155	M	0.010	1.000	M	0.010
43	W-20-A	STH 13 STA 711+75 - 718+50	Lat: 46.268711 Long: -90.680112	RPE	0.080	1.200	WS	0.096
44	W-21-A	STH 13 STA 694+25 - 695+75	Lat: 46.263090 Long: -90.680088	M	0.010	1.000	M	0.010
45	W-21-B	STH 13 STA 830+50 - 832+00	Lat: 46.299671 Long: -90.682221	M	0.020	1.000	M	0.020
46	W-22-B	STH 13 STA 834+50 - 837+00	Lat: 46.300214 Long: -90.681639	M	0.040	1.000	M	0.040
47	W-23-B	STH 13 STA 845+00 - 847+50	Lat: 46.302574 Long: -90.679158	RPE	0.050	1.200	WS	0.060

48	W-24-A	STH 13 STA 675+00 - 676+75	Lat: 46.257999 Long: -90.680055	M	0.010	1.000	M	0.010
49	W-25-A	STH 13 STA 667+00 - 671+00	Lat: 46.255859 Long: -90.680003	M	0.060	1.000	M	0.060
50	W-27-A	STH 13 STA 636+25 - 641+50	Lat: 46.248677 Long: -90.679971	M	0.120	1.000	M	0.120
51	W-27-B	STH 13 STA 918+50 - 919+75	Lat: 46.318999 Long: -90.661457	M	0.020	1.000	M	0.020
52	W-27-B	STH 13 STA 921+00 - 921+50	Lat: 46.318856 Long: -90.661726	SS	0.005	1.000	SS	0.005
			Lat: Long:					0.000
			Lat: Long:					0.000
			Lat: Long:					0.000
			Lat: Long:					0.000

Is there potential for onsite mitigation? If unknown, check with the REC.

YES [ ] Where is it located? (T/R, station, map)

NO [X] List bank site to be used. **(Determined by REC)** Bear Trap Creek Wetland Mitigation Bank Site

Please attach another sheet if the space provided is not adequate for all impacts or to add any additional comments.

Wetland Delineation Report

STH 13 Morse Road to Cayuga Road

Cardno Project Number: J157001M16



Prepared for
Wisconsin Department of Transportation

August 29, 2016

Cardno
Shaping the Future

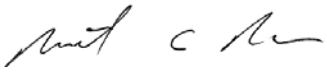
Contact Information

Cardno

6140 Cottonwood Drive, Suite A
Fitchburg, WI 53719

Telephone: 608-661-2955 (office)
Telephone: 608-260.5847 (cell)
Zachary.waechter@ @cardno.com
www.cardno.com

Author(s): 
Zachary Waechter
Senior Project Scientist

Approved By: 
Robb Roos
Senior Project Scientist

Document Information

Prepared for	Wisconsin Department of Transportation
Project Name	STH 13 Morse Road to Cayuga Road
File Reference	N/A
Job Reference	Cardno Project Number: J157001M16
Date	29 August 2016
Version Number	1.0
Effective Date	August 29, 2016
Date Approved:	September 12, 2016

Document History

Version	Effective Date	Description of Revision	Prepared by:	Reviewed by:
1.0	8/29/2016	Wetland Delineation Report v1	Zachary Waechter/ Aaron Diehl	Robb Roos / Aaron Diehl

© Cardno. Copyright in the whole and every part of this document belongs to Cardno and may not be used, sold, transferred, copied or reproduced in whole or in part in any manner or form or in or on any media to any person other than by agreement with Cardno.

This document is produced by Cardno solely for the benefit and use by the client in accordance with the terms of the engagement. Cardno does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by any third party on the content of this document.

Table of Contents

1 Introduction 5

2 Methods 7

2.1 Background Information 7

2.1.1 USGS Topographical Map 7

2.1.2 Soil Survey 7

2.1.3 Mapped Wetlands 8

2.1.4 Current, Historic, and High-Resolution Aerial Imagery 8

2.2 Investigation Methodology 8

2.2.1 Site Photographs 8

2.2.2 Delineation Data Sheets 9

2.2.3 Survey of Wetland Boundary 9

2.3 Site-specific Agency Guidance and Prior Concurrence 9

3 Results and Discussion 10

3.1 Recent Climatic Conditions and Precipitation Data 10

3.2 General Site Conditions 10

3.3 Uplands 10

3.4 Wetlands 11

3.4.1 Wet Meadow (8.6 Acres, 84% of Project Area) 11

3.4.2 Shallow Marsh (0.88 Acres, 9% of Project Area) 11

3.4.3 Wooded Swamp (0.44 Acres, 4% of Project Area) 11

3.4.4 Shrub Scrub (0.21 Acres, 2% of Project Area) 11

3.4.5 Riparian Emergent Wetland (0.13 Acres, 1% of Project Area) 11

3.4.6 Naturally Problematic and Significant Disturbed Wetlands 12

3.5 Waterways 12

3.6 Other Water Resources Identified 12

4 Summary and Conclusion 13

5 Literature Cited 14

Figures

1. Project Location
2. Topographic Map
3. Mapped Soil Units
4. Wisconsin Wetland Inventory
5. Delineated Wetlands
6. Photo Points

Appendices

A. Site Photographs

B. Wetland Determination Data Sheets – Northcentral Great Lakes Region

C. WisDOT Wetland Classification System

D. Summary of Delineated Wetlands

1 Introduction

Cardno was contracted to perform a wetland and waterway delineation within the State Highway (STH) 13 corridor from Morse Road to Cayuga Road, approximately 70 feet from the centerline of both sides of the 4.5 miles long highway corridor, located in Ashland County, WI. The Wisconsin Department of Transportation (WisDOT) is proposing work within the project area that has the potential for permitting which may require a wetland delineation. This project area and associated delineation boundary are depicted in Figures 1-6.

Based on field investigations conducted by Cardno on July 11, July 25, and July 26 26, 2016, and review of related resource maps, it is our professional opinion that 41 wetland complexes totalling 10.24 acres (446,050 sq. ft.) and seven waterways exist within the project area.

It should be noted that the project area received an estimated 8-10" of rainfall over the night of July 11 – July 12. This resulted in significant flooding across parts of the region and many road closures, including the closure of STH 13.

This report outlines the wetland delineation investigation, methodology, and its findings as completed by Cardno staff. This report has been compiled by the following staff that are trained and experienced in delineation methodologies and applicable regulations:

- Zach Waechter – Senior Project Scientist – Project Manager; Lead Field Delineator: Zach has been working in the field of wetland ecology for over four years and hold Bachelors' of Science in Soil and Land Management and Resource Management from the University of Wisconsin-Stevens Point. As Senior Project Scientist, Zach conducts environmental surveys, including wetland delineation, site characterization, land cover classification, survey of the work area for environmental considerations, pre-construction threatened and endangered species surveys, invasive species mapping, and hydrologic survey of wetland mitigation sites, with an emphasis on utility (oil, electric, transportation) sectors. He writes reports for wetland delineations, wetland mitigation site monitoring, wetland mitigation site searches, and environmental impact statements.
- Jameson Loesch – Senior Staff Scientist – Lead Field Delineator: Jameson maintains a leading role as a GIS analyst, while also providing technical support for field work. He is responsible for the acquisition/creation, management and analysis of large datasets for both small and large multi-year projects, as well as the creation of maps and figures for many of Cardno's GIS projects. With nine years of experience in spatial data analysis, Jameson often works with project managers and clients to develop custom GIS tools, which help to standardize analysis and increase efficiency. Jameson conducts FSA Slide Reviews and also takes part in field botany efforts for wetland delineations, endangered species surveys, wetland mitigation bank monitoring, botanical inventories, as well as aid in the preparation of reports.
- Robb Roos – Senior Project Scientist – Lead Field Delineator: Robb Roos has been working in the field of wetland ecology and ecological restoration for ten years. He holds a Master of Science degree in Biology with an emphasis in Restoration Ecology from Grand Valley State University. Robb has been leading wetland delineation field teams for over three years with Cardno on projects throughout the Midwest. Robb has also completed WDNR and USACE-based wetland delineation trainings and is currently certified as a Wetland Professional in Training by the Society of Wetland Scientists. Currently, Robb leads wetland delineations, habitat surveys, mitigation projects, report writing, and project management.
- Will Taylor – Staff Scientist – Field Delineator: Will has been working in the field of wetland ecology and restoration for over three years and holds a Bachelor's of Science in Conservation Biology from the University of Wisconsin-Madison. He has conducted restoration and mitigation site monitoring for over three years. Currently, Will leads and assists with wetland delineations, habitat surveys, restoration projects, and report writing.

- Ken Carlson – Staff Scientist –Field Delineator: Ken Carlson has spent three years working in the field of wetland restoration and ecology with Cardno and the past two years participating in wetland delineations and surveys. He holds a Bachelor of Science degree in Environmental Policy and Planning, Environmental Science from the University of Wisconsin – Green Bay. Other related training includes completion of the WDNR and USACE basic wetland delineation training and NASECA erosion control inspection training courses. Currently, Ken's job responsibilities include assistance in wetland delineation, conducting field surveys for threatened/endangered species and habitat, permitting, construction oversight, and environmental project management for a variety of utility projects.
- Ryan Wnuk – Assistant Staff Scientist –Field Delineator: As an Assistant Staff Scientist, Ryan is responsible for environmental permitting, construction monitoring, habitat restoration and all associated field activities for projects in the oil, electric and transportation sectors. This includes performing natural area rare, threatened, and endangered species surveys, wetland delineations, and general project related environmental compliance oversight. Ryan also actively assists senior project managers with technical report writing, project management needs and GIS data interpretation, manipulation and management. Ryan holds Bachelor Degrees in Environmental Studies and Economics from the University of Wisconsin – Madison.
- Alex Cohen – GIS Technician – GIS Analyst: Alex has several years of experience in natural resource ecology, including field work, GIS analysis, cartography, and modeling. He holds an M.S. in Computational Ecology from Purdue University and a B.S. in Biology/Psychology from Calvin College. Currently, Alex provides GPS/GIS support, data analysis/statistical capabilities, programming expertise, aerial image analyses, and mapping services. He also performs endangered species surveys and assists in the field with wetland delineations and other surveys.

2 Methods

2.1 Background Information

Sources of information that were consulted to identify potential wetlands within the project area prior to field investigation are listed below:

- United States Geological Survey (USGS) Topographical Map (Figure 2)
- USDA-NRCS Web Soil Survey Database for Ashland County, Wisconsin (Figure 3)
- WDNR Wisconsin Wetlands Inventory (WWI) Mapping (Figure 4)
- ESRI Basemap 2015 Aerial Photograph (Figures 3-5), Google Earth Historic Aerial Imagery, and Pictometry High Resolution (low elevation, plane-flown) Imagery
- WDNR Surface Water Data Viewer

These maps identify potential wetlands and wetland soil units on the site. The sole use of any of these maps to make wetland determinations is not acceptable. Descriptions of findings from the review of this background information is provided in the subsections, below.

2.1.1 USGS Topographical Map

The USGS topographic map (Figure 2) shows entire project area is generally along the southern portion of the road with undulating topography in the northern portions. Field reviewed local relief verified those findings mentioned above.

2.1.2 Soil Survey

The NRCS soil map of the project area (Figure 3) identified the 15 soil types outlined in Table 2-1, below.

Table 2-1 Mapped Soil Units within the Project Area

Symbol	Description	Hydric Soil Unit?	Acreage
5140A	**Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes**	**Yes**	**1.93**
5141A	**Lupton-Pleine-Cathro complex, 0 to 1 percent slopes**	**Yes**	**8.57**
5172B	Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes	No	8.54
5172C	Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes	No	21.29
5173D	Gogebic-Pence complex, 18 to 35 percent slopes, very stony	No	2.03
670C	Keweenaw-Pence complex, 6 to 15 percent slopes, stony	No	5.34
670E	Keweenaw-Pence complex, 15 to 45 percent slopes, stony	No	0.04
9012B	Sayner-Lindquist complex, 0 to 6 percent slopes	No	0.03
9012C	Sayner-Lindquist complex, 6 to 15 percent slopes	No	2.92
9013A	Tipler-Manitowish complex, 0 to 3 percent slopes	No	6.48
9050A	**Fordum, Totagatic, and Bowstring soils, 0 to 1 percent slopes, frequently flooded**	**Yes**	**1.47**
9051A	**Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony**	**Yes**	**8.91**
9113B	Padus-Karlin complex, 0 to 6 percent slopes	No	6.83
9155A	**Haplosaprists, Peats and Mucks, 0 to 1 percent slopes**	**Yes**	**1.61**
W	**Water**	**NA**	**0.16**
		Total:	76.15

2.1.3 Mapped Wetlands

The WWI map of the project area (Figure 4) identified the approximately 10.12 acres of wetlands outlined in the Table 2-2, below.

Table 2-2 Mapped WWI Features within the Project Area

WWI	Wetland Type	Acreage
PEMC	Freshwater Emergent Wetland	<0.001
PFO1/4Bg	Freshwater Forested/Shrub Wetland	3.81
PFO2/SS3Bg	Freshwater Forested/Shrub Wetland	3.34
PFO2Bg	Freshwater Forested/Shrub Wetland	1.84
PSS1Bg	Freshwater Forested/Shrub Wetland	0.99
R2UBH	Riverine	0.14
	Total:	10.12

2.1.4 Current, Historic, and High-Resolution Aerial Imagery

A 2015 aerial photograph, multiple years of historic imagery, and recent high-resolution imagery were reviewed in order to evaluate the property for possible wetland signatures. Based on this imagery, numerous potential wetland visual signatures were identified within the project area. All wetland signatures were field verified to determine if wetlands are present.

2.2 Investigation Methodology

The delineation of wetlands and other waters of the State were based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* Version 2.0 (Environmental Laboratory, 2012) as required by current policy.

Prior to the field work, the background information was reviewed to establish the probability and potential location of wetlands and waterways within the project area. Next, a general reconnaissance of the entire project area site was conducted to evaluate site conditions. On July 11, 25, and 26, 2016, the site was walked with the specific intent of determining wetland boundaries. Data points were sampled during this time at locations within and near the wetland areas to document soil characteristics, evidence of hydrology and dominant vegetation. Soils were examined to a depth of at least 24 inches (unless fill was encountered) to assess soil characteristics, site hydrology, and comparison to known NRCS hydric soil indicators. Complete descriptions of typical soil series can be found in the soil survey for this county.

Vegetative community boundaries were identified, mapped, and either a representative Data Point or notes on hydrology and dominant vegetation were taken within each of their limits. These community types are differentiated by color codes on the Delineated Wetlands and Waterways Figure (Figure 1).

Delineation in the field only occurred within the original project boundary (project area) provided to Cardno. This project area is depicted on all Figures that accompany this report.

2.2.1 Site Photographs

Photographs of data point, waterway, and general photo point locations are located in Appendix A. These photographs are the visual documentation of site conditions at the time of inspection. The photographs are intended to provide representative visual samples of any wetlands or other special features found on the site. Photo naming refers to labels identified on Figure 5 Delineated Wetland and Figure 6 Photo Points.

- DP = Data Point (includes photos of these areas)
- PP = Photo Point only
- S= Stream
- W=Wetland

2.2.2 Delineation Data Sheets

The Northcentral Great Lakes Region routine wetland delineation data sheets used in the wetland delineation process are located in Appendix B. These forms are the written documentation of how representative sample stations meet or do not meet each of the wetland criteria. Plant species nomenclature follows the 2016 National Wetland Plant List (Lichvar et al., 2016). Soils were identified using the methods outlined in the USDA NRCS Field Indicators of Hydric Soils in the United States, Version 7.0 (USDA-NRCS 2010).

2.2.3 Survey of Wetland Boundary

The wetland delineation map (Figure 5) reflects the wetland boundaries described below.

Cardno GPS surveyed all data point locations and wetland boundary locations. The field data collection settings, within GPS units, use available satellites, including two DGPS (Differential Global Positioning System) satellites, to capture location data. Using the WAAS (Wide Area Augmentation System), satellite readings provide sub-meter accuracy on data point locations and wetland boundaries (generally within 1-2 feet). Cardno's GPS units acquire multiple readings per data point to increase accuracy.

Please note that while Cardno's GPS survey provides reasonably accurate spatial information regarding the wetlands delineated, it does not constitute the same accuracy as a professional land survey. The St. Paul District USACE and WDNR may require an official survey be completed by a Professional Land Surveyor or Professional Engineer in order to verify the delineation boundaries for impact and regulatory purposes.

2.3 Site-specific Agency Guidance and Prior Concurrence

There is no knowledge of previous wetland delineation mapping at this site.

3 Results and Discussion

3.1 Recent Climatic Conditions and Precipitation Data

Recent precipitation data was compared with historic precipitation data from a 30-year dataset (1971-2000) from a nearby weather station (Hurley, WI3800) to determine if normal hydrologic and climatic conditions were present on-site during the delineation. When compared to the WETS Station data, the observed precipitation data from three months prior to the delineation indicated wet precipitation conditions at the time of the delineation on July 11, July 25, and July 26, 2016. The antecedent hydrologic condition analysis is provided below:

		Long-term rainfall records							
	Month	3 yrs. In 10 less than	normal	3 yrs. In 10 more than	Actual Rainfall	Condition: Wet, Normal, Dry	Condition Value	Month Weight Value	Product of previous 2 columns
3rd Prior Month	April	1.56	2.08	2.43	3.3	Wet	3	1	3
2nd Prior Month	May	2.27	2.99	3.48	3.68	Wet	3	2	6
1st Prior Month	June	3.20	3.88	4.39	6.02	Wet	3	3	9
								Sum	18
								Antecedent Precipitation Conditions	Wet

NOTE: if sum is:		Condition Values:	
6 to 9	then prior period has been drier than normal	Dry	1
10 to 14	then prior period has been normal	Normal	2
15 to 18	then prior period has been wetter than normal	Wet	3

WETS Table Monthly Rainfall — WEATHER STATION LOCATION HURLEY, WI3800

3.2 General Site Conditions

Based on Cardno's field investigation and review of related resource maps, it is our professional opinion that 41 wetland complexes totalling 10.24 acres (446,050 sq. ft.) and seven waterways exist within the project area (Figure 5). Descriptions of the wetlands and waterways identified are located in Sections 3.4 and 3.5, below.

It should be noted that the project area received an estimated 8-10" of rainfall over the night of July 11 – July 12. This resulted in significant flooding across parts of the region and many road closures, including the closure of STH 13.

3.3 Uplands

Most of the upland within the Project Area consist of roadside clearings within forested areas. Vegetation along roadsides often include smooth brome (Bromus inermis, FACU), Kentucky bluegrass (Poa pratensis, FAC), bracken fern (Pteridium aquilinum, FACU) and a variety of weedy forb species. The forested areas adjacent to the Project area included both deciduous coniferous trees, including sugar maple (Acer Saccharum, FACU), quaking aspen (Populus tremuloides, FAC), white spruce (Picea glauca, FACU), and balsam fir (Abies balsamea, FAC). In most cases, indicators of hydric soil and/or wetland hydrology were not observed within the upland areas.

3.4 Wetlands

In the entire project area, a total of 41 wetland complexes were identified within the survey area. Appendix D summarizes the wetland data collected within the Project Area. The full wetland delineation data sheets area included as Appendix B.

Appendix D summarizes the wetland community types identified within the Project Area. Within the table a description of the observed hydric soil, and hydrologic indictors, plant species, and wetland community type(s), based upon the WisDOT Wetland Classification (Appendix C), within the wetland complex, and associated data point. The data point listed on the table correlates to the data forms contained in Appendix B. In addition to the table, general descriptions of the wetland plant communities mapped on Figure 5 (according to the WisDOT Wetland Classification, Appendix C) are described below.

3.4.1 Wet Meadow (8.6 Acres, 84% of Project Area)

Approximately 8.6 acres of the Fresh (Wet) Meadow Community was identified within the Project Area. This was the most abundant wetland type which comprised 84% of the total wetlands identified. While several of the fresh (Wet) Meadow communities in the Project Area were dominated by Reed Canary Grass (*Phalaris arundinacea*, FACW), most of these wetlands contained native plant communities. Frequently observed species include Sedge species (*Carex* spp.), Canada Bluejoint (*Calamagrostis canadensis*, OBL), Rushes (*Juncus effusus* and *J. canadensis*, OBL), and Green Bulrush (*Scirpus atrovirens*).

3.4.2 Shallow Marsh (0.88 Acres, 9% of Project Area)

Approximately 0.88 acres of the Shallow Marsh Community was identified within the Project Area. This was the second most abundant wetland type which comprised approximately 9% of the total wetlands identified. This wetland community was typically dominated by Cattails (*Typha latifolia*, OBL) with sub-communities that included Common Rush (*Juncus effusus*, OBL), Green Bulrush (*Scirpus atrovirens*, OBL) and Canada Bluejoint (*Calamagrostis canadensis*, OBL). Typically standing water and/or a high water table was observed in these wetland communities.

3.4.3 Wooded Swamp (0.44 Acres, 4% of Project Area)

Approximately 0.44 acres of the Wooded Swamp Community was identified within the Project Area. This was the third most abundant wetland type which comprised about 4% of the total wetlands identified. The areas of wooded swamp were included a variety of tree, including White Spruce (*Picea glauca*, FACU), Balsam Fir (*Abies balsamea*, FAC), Quaking Aspen (*Populus tremuloides*, FAC), White Cedar (*Thuja occidentalis*, FACW), American Elm (*Ulmus americana*, FACW), and Balsam Popular (*Populus balsamifera*, FACW). Herbaceous vegetation included Bunchberry (*Cornus canadensis*, FAC), Canada Bluejoint (*Calamagrostis canadensis*, OBL), and Sedges (*Carex* spp.).

3.4.4 Shrub Scrub (0.21 Acres, 2% of Project Area)

Approximately 0.21 acres of the Shrub Scrub Community was identified within the Project Area. This was the fourth most abundant wetland type which comprised approximately 2% of the total wetlands identified. This wetland type was typically dominated by Speckled Alder (*Alnus incana*, FACW), intermixed with patches of Red Maple (*Acer rubrum*, FAC), Sandbar Willow (*Salix interior*, FACW), and White Meadow Sweet (*Spirea alba*, FACW). Herbaceous species include Canada Bluejoint (*Calamagrostis canadensis*, OBL), Sensitive Fern (*Onoclea sensibilis*, FACW), and sedge species (*Carex* spp.).

3.4.5 Riparian Emergent Wetland (0.13 Acres, 1% of Project Area)

Approximately 0.13 acres of the Riparian Wetland (emergent) Community was identified within the Project Area. This was the fifth most abundant wetland type which comprised approximately 1% of the

total wetlands identified. This area consisted of Canada Bluejoint (*Calamagrostis canadensis*, OBL) with patches of willow (Salix bebbiana, FACW), Jewelweed (*Impatiens capensis*, FACW), Fireweed (*Chamaenerion angustifolium*, FAC), and Arrowleaf Tearthumb (*Persicaria sagittata*, OBL).

3.4.6 Naturally Problematic and Significant Disturbed Wetlands

No areas of naturally problematic wetlands were noted. Significantly disturbed wetlands did occur within the Project Area and were noted on their respective wetland determination data forms. Significantly disturbed soils were observed where fill material from the existing road grade was present. Significantly disturbed vegetation was observed where the road right-of-way had been mowed. In both cases Cardno used their best professional judgment and the use of the resources mentioned in the methods section, above, to determine the wetland boundary.

3.5 Waterways

Cardno determined that seven waterways exist within the project area. A summary of the delineated waterways is contained in Table 3-1, below. Representative photographs of waterways are provided in Appendix A.

Table 3-1 Delineated Waterways within the Project Area

Stream ID	Waterway Name/Connecting Waterbody	OHWM Width (feet)	Substrate
S-01	Spillerberg Creek	25	Mud/Silt
S-02	Unnamed	35	Mud/Silt
S-03	Unnamed	18	Mud/Silt
S-04	Bad River	70	Gravel
S-05	Unnamed	4	Constructed
S-06	Unnamed	3	Mud/Silt
S-07	Unnamed	4	Mud/Silt

3.6 Other Water Resources Identified

No other water resources were identified within the project area. No known stormwater features were identified within close proximity to the project area based on background information review.

There is no known previous wetland delineation mapping of the project area.

4 Summary and Conclusion

Cardno was contracted by WisDOT to perform a wetland and waterway delineation within the State Highway (STH) 13 corridor from Morse Road to Cayuga Road, approximately 70’ from the centerline of both sides of the 4.5 miles long highway corridor, located in Ashland County, WI.

Based on field investigations conducted by Cardno on July 11, July 25, and July 26, 2016, and review of related resource maps, it is our professional opinion that 41 wetland complexes totalling 10.24 acres (446,050 sq. ft.) and seven waterways exist within the project area. This report represents our best professional judgment based on our knowledge and experience.

The wetlands identified for this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers, state regulation under the jurisdiction of Wisconsin DNR, and local jurisdiction under the county, town, city or village.

5 Literature Cited

Environmental Laboratory. 1987. *U.S. Army Corps of Engineers' Wetland Delineation Manual*, Technical Report Y-87-1, U.S. Waterways Experiment Station, Vicksburg, MS.

Environmental Laboratory. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (version 2.0)*, ERDC/EL TR-12-01, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List:* 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X. http://www.phytoneuron.net/

United States Department of Agriculture, Natural Resource Conservation Service (NRCS). Web Soil Survey. *Soil Survey of Ashland County, WI*. Accessed April 2016.

USDA Field Office Climate Data. http://agacis.rcc-acis.org/55051/mtot. Accessed July 2016.

USDA-NRCS. 2010. Field Indicators of Hydric Soils in the United States. A Guide for Identifying and Delineating Hydric Soils, Version 7.0. Edited by L.M. Vasilas, G.W. Hurt, and C.V. Noble.

STH 13 Morse Road to Cayuga Road

APPENDIX A

SITE PHOTOGRAPHS



Photograph DP-01-A; Representative photograph facing North



Photograph DP-01-B; Representative photograph facing North.



Photograph DP-01-B; Representative photograph facing South.



Photograph DP-02-A; Representative photograph facing North.



Photograph DP-02-B; Representative photograph facing North.



Photograph DP-02-B; Representative photograph facing South.



Photograph DP-03-A; Representative photograph facing North.



Photograph DP-03-B; Representative photograph facing East



Photograph DP-04-A; Representative photograph facing East.



Photograph DP-04-B; Representative photograph facing East.



Photograph DP-05-A; Representative photograph facing South.



Photograph DP-05-B Representative photograph facing East.



Photograph DP-06-A; Representative photograph facing Southeast.



Photograph DP-06-B; Representative photograph facing South.



Photograph DP-07-A; Representative photograph facing North.



Photograph DP-07-B; Representative photograph facing North.



Photograph DP-07-B; Representative photograph facing South.



Photograph DP-08-A; Representative photograph facing North



Photograph DP-08-B; Representative photograph facing North.



Photograph DP-08-B; Representative photograph facing South.



Photograph DP-09-A; Representative photograph facing North.



Photograph DP-09-B; Representative photograph facing North.



Photograph DP-10-A; Representative photograph facing Northeast.



Photograph DP-10-B; Representative photograph facing East.



Photograph DP-11-A; Representative photograph facing South.



Photograph DP-11-B; Representative photograph facing East.



Photograph DP-12-A; Representative photograph facing South.



Photograph DP-12-B; Representative photograph facing South.



Photograph DP-13-A; Representative photograph facing Northwest.



Photograph DP-13-B; Representative photograph facing East.



Photograph DP-14-A; Representative photograph facing Northwest.



Photograph DP-15-A; Representative photograph facing South.



Photograph DP-15-B; Representative photograph facing East.



Photograph DP-16-A; Representative photograph facing West.



Photograph DP-16-B; Representative photograph facing South.



Photograph DP-17-B; Representative photograph facing North.



Photograph DP-17-B; Representative photograph facing Northwest.



Photograph DP-18-A; Representative photograph facing North.



Photograph DP-19-A; Representative photograph facing North.



Photograph DP-19-B; Representative photograph facing Southeast.



Photograph DP-20-A; Representative photograph facing North.



Photograph DP-20-B; Representative photograph facing Northwest.



Photograph DP-21-A; Representative photograph facing South.



Photograph DP-21-B; Representative photograph facing Northwest.



Photograph DP-21-B; Representative photograph facing North.



Photograph DP-22-A; Representative photograph facing South.



Photograph DP-22-B; Representative photograph facing Northwest.



Photograph DP-23-A; Representative photograph facing East.



Photograph DP-23-B; Representative photograph facing Northwest.



Photograph DP-24-A; Representative photograph facing Northeast.



Photograph DP-24-B; Representative photograph facing Northwest.



Photograph DP-25-A; Representative photograph facing North.



Photograph DP-25-B; Representative photograph facing Northwest.



Photograph DP-26-A; Representative photograph facing East.



Photograph DP-26-B; Representative photograph facing Southwest



Photograph DP-27-A; Representative photograph facing North.



Photograph DP-27-B; Representative photograph facing Southeast.



Photograph DP-28-A; Representative photograph facing North.



Photograph DP-28-B; Representative photograph facing Southeast.



Photograph DP-29-A; Representative photograph facing East.



Photograph DP-29-B; Representative photograph facing Southeast.



Photograph DP-30-A; Representative photograph facing North.



Photograph DP-30-B; Representative photograph facing Northwest.



Photograph DP-31-A; Representative photograph facing North.



Photograph DP-31-B; Representative photograph facing Northwest.



Photograph DP-32-A; Representative photograph facing Northeast.



Photograph DP-32-B; Representative photograph facing South.



Photograph DP-33-A; Representative photograph facing North.



Photograph DP-33-B; Representative photograph facing South.



Photograph DP-34-A; Representative photograph facing East.



Photograph DP-34-B; Representative photograph facing South.



Photograph DP-35-A; Representative photograph facing West.



Photograph DP-35-B; Representative photograph facing South.



Photograph DP-36-A; Representative photograph facing West.



Photograph DP-36-B; Representative photograph facing Northwest.



Photograph DP-37-A; Representative photograph facing West.



Photograph DP-37-B; Representative photograph facing North.



Photograph DP-38-A; Representative photograph facing West.



Photograph DP-38-B; Representative photograph facing Northwest.



Photograph DP-39-B; Representative photograph facing North.



Photograph DP-40-A; Representative photograph facing North.



Photograph DP-40-B; Representative photograph facing North.



Photograph DP-41-A; Representative photograph facing North.



Photograph DP-41-B; Representative photograph facing North.



Photograph DP-42-A; Representative photograph facing North.



Photograph DP-42-B; Representative photograph facing North.



Photograph DP-43-A; Representative photograph facing West.



Photograph DP-43-B; Representative photograph facing Southeast.



Photograph DP-44-A; Representative photograph facing South.



Photograph DP-45-A; Representative photograph facing South.



Photograph DP-46-A; Representative photograph facing South.



Photograph DP-47-A; Representative photograph facing East.



Photograph DP-48-A; Representative photograph facing South.



Photograph DP-49-A; Representative photograph facing South.



Photograph DP-50-A; Representative photograph facing West.



Photograph DP-51-A; Representative photograph facing South.



Photograph DP-52-A; Representative photograph facing South.



Photograph DP-53-A; Representative photograph facing South.



Photograph DP-54-A; Representative photograph facing West.



Photograph DP-55-A; Representative photograph facing South.



Photograph DP-56-A; Representative photograph facing South.



Photograph DP-57-A; Representative photograph facing North.



Photograph DP-58-A; Representative photograph facing Southeast.



Photograph DP-59-A; Representative photograph facing Southeast.



Photograph DP-60-A; Representative photograph facing Southeast.



Photograph DP-61-A; Representative photograph facing Southeast.



Photograph DP-62-A; Representative photograph facing South.



Photograph DP-63-A; Representative photograph facing North.



Photograph PP-01: Upland; Representative photograph facing North



Photograph PP-1: Upland; Representative photograph facing South.



Photograph PP-02: W-02-B; Wooded Swamp; Representative photograph facing North.



Photograph PP-02: W-02-B; Wooded Swamp; Representative photograph facing South.



Photograph PP-03: W-02-B; Shrub Scrub; Representative photograph facing East.



Photograph PP-04: W-01-B; Wet Meadow; Representative photograph facing East.



Photograph PP-05: Upland Roadside; Representative photograph facing North.



Photograph PP-06: W-03-B; Shrub Scrub; Representative photograph facing Northeast.



Photograph PP-06: W-03-B; Shrub scrub; Representative photograph facing Southeast.



Photograph PP-07: W-03-B; Shrub scrub; Representative photograph facing Southeast.



Photograph PP-07: W-03-B; Wooded Swamp; Representative photograph facing Northeast.



Photograph PP-08: Upland Roadside; Representative photograph facing North.



Photograph PP-09: W-01-A; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-10: Upland Roadside; Representative photograph facing Northeast.



Photograph PP-011: W-02-A; Wooded Swamp; Representative photograph facing Southeast.



Photograph PP-12: Upland Roadside; Representative photograph facing Southeast.



Photograph PP-13: W-03-A; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-14: W-04-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-15: W-04-A; Wet Meadow; Representative photograph facing North.



Photograph PP-16: W-05-A; Shrub Scrub; Representative photograph facing Northeast.



Photograph PP-17: W-06-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-18: W-07-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-18: W-07-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-19: W-08-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-20: W-09-A; Wet Meadow; Representative photograph facing North.



Photograph PP-21: W-10-A; Shallow Marsh; Representative photograph facing East.



Photograph PP-22: W-11-A; Shallow Marsh; Representative photograph facing North.



Photograph PP-23: W-12-A; Representative photograph facing Southeast.



Photograph PP-24: W-13-A; Wet Meadow; Representative photograph facing North.



Photograph PP-25: W-07-B; Wet Meadow; Representative photograph facing South.



Photograph PP-26: W-07-B; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-27: W-06-B; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-28: W-08-B; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-29: W-09-B; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-30: W-10-B; Wet Meadow; Representative photograph facing South.



Photograph PP-31: W-12-B; Wet Meadow; Representative photograph facing South.



Photograph PP-32: Upland Roadside; Representative photograph facing North.



Photograph PP-33: Upland Roadside; Representative photograph facing South.



Photograph PP-34: W-14-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-35: W-15-A; Wet Meadow; Representative photograph facing South.



Photograph PP-36: W-16-A; Shallow Marsh; Representative photograph facing West.



Photograph PP-37: W-17-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-38: W-18-A; Riparian Emergent Wetland; Representative photograph facing Northwest.



Photograph PP-39: W-19-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-40: W-20-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-41: W-21-A; Wet Meadow; Representative photograph facing South.



Photograph PP-42: W-22-A; Representative photograph facing South.



Photograph PP-43: W-23-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-44: W-24-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-45: W-25-A; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-46: W-25-A; Shallow Marsh; Representative photograph facing Southeast.



Photograph PP-47: W-26-A; Shallow Marsh; Representative photograph facing Northwest.



Photograph PP-48: W-14-B; Wet Meadow; Representative photograph facing West.



Photograph PP-49: UPLAND; Representative photograph facing North.



Photograph PP-50: W-15-B; Wet meadow; Representative photograph facing Southwest.



Photograph S-01-P01: Cross stream; Representative photograph facing South.



Photograph S-01-P01: Upstream; Representative photograph facing East.



Photograph S-01-P01: Upstream; Representative photograph facing West.



Photograph S-01-P02: Representative photograph facing Northwest.



Photograph S-02-P01: Representative photograph facing Southwest.



Photograph S-02-P01: Representative photograph facing West.



Photograph S-023P01: Downstream; Representative photograph facing South.



Photograph S-03-P01: Upstream; Representative photograph facing South.



Photograph S-03-P01: Cross Stream; Representative photograph facing South.



Photograph S-03-P02: Representative photograph facing West.



Photograph S-04-P01: Upstream; Representative photograph facing East.



Photograph S-04-P01: Cross Stream; Representative photograph facing South.



Photograph S-04-P01: Downstream; Representative photograph facing West.



Photograph S-05-P01: Upstream; Representative photograph facing West.



Photograph S-05-P01: Cross Stream; Representative photograph facing North.



Photograph S-06-P01: Representative photograph facing North.



Photograph S-07-P01; Representative photograph facing Northeast.

STH 13 Morse Road to Cayuga Road

APPENDIX B

WETLAND DETERMINATION DATA SHEETS

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-01-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.203800 Long: -90.626809 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	16"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-01-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Elymus repens*	15	Yes	FACU
2. *Pteridium aquilinum*	10	Yes	FACU
3. *Trientalis borealis*	5	No	FAC
4. *Maianthemum canadense*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	35	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	35 (A)		135 (B)
Prevalence Index = B/A =			3.86

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-01-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 2/2	100					Loamy Sand	
16-24"	7.5YR 5/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-01-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.196475 Long: -90.625451 Datum: NAD83

Soil Map Unit Name: 9050A - Fordum, Totagatic, and Bowstring soils, 0 to 1 percent slopes, frequently flooded NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal. Appears that the soil from 0-24" is fill material.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	N/A
Water Table Present?	Yes X	No ____	Depth (inches):	7"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-01-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex stricta*	70	Yes	OBL
2. *Solidago altissima*	15	No	FACU
3. *Agrostis gigantea*	5	No	FACW
4. *Leucanthemum vulgare*	2	No	UPL
5. *Populus deltoides*	2	No	FAC
6. *Ranunculus pensylvanicus*	1	No	OBL
7. *Spiraea alba*	1	No	FACW
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	96	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	71	x 1 =	71
FACW species	11	x 2 =	22
FAC species	17	x 3 =	51
FACU species	15	x 4 =	60
UPL species	2	x 5 =	10
Column Totals:	116 (A)		214 (B)
Prevalence Index = B/A =			1.84

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-01-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17"	7.5YR 3/1	100					Sand	Fill
17-24"	7.5YR 2.5/1	100					Loam	Fill
24-30"	7.5YR 2.5/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- X Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

0-24" appears to be filled matieral. Soil should be considered hydric based off best professional judgement.

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-02-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.203856 Long: -90.626792 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-02-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	20	Yes	OBL
2. *Iris versicolor*	5	No	OBL
3. *Onoclea sensibilis*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	30 (A)		35 (B)
Prevalence Index = B/A =			1.17

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-02-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-30"	7.5YR 2.5/2	100					Mucky Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- X Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-02-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.196559 Long: -90.625512 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-02-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	50	Yes	FACU
2. *Carex stricta*	15	Yes	OBL
3. *Poa pratensis*	15	Yes	FACU
4. *Solidago canadensis*	10	No	FACU
5. *Eurybia macrophylla*	5	No	UPL
6. *Lotus corniculatus*	5	No	FACU
7. *Alnus incana*	2	No	FACW
8. *Ranunculus acris*	2	No	FAC
9. *Leucanthemum vulgare*	2	No	UPL
10. *Fragaria virginiana*	2	No	FACU
11. *Achillea millefolium*	2	No	FACU
12. *Trifolium pratense*	1	No	FACU
13.			
14			
15			
16			
17			
18			
19			
20			
	111	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	2	x 2 =	4
FAC species	2	x 3 =	6
FACU species	85	x 4 =	340
UPL species	7	x 5 =	35
Column Totals:	111 (A)		400 (B)
Prevalence Index = B/A =			3.60

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-02-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-03-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.206486 Long: -90.630183 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-03-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Corylus cornuta*	10	Yes	FACU
2. *Rubus idaeus*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	40	Yes	FACU
2. *Poa pratensis*	20	Yes	FACU
3. *Cornus canadensis*	10	No	FAC
4. *Achillea millefolium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	90 (A)		345 (B)
Prevalence Index = B/A =			3.83

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-03-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 3/4	100					Sand	
14-24"	5YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse to Cayuga Rd | City/County: Glidden/Ashland | Sampling Date: 7/11/2016

Applicant/Owner: WisDOT | State: WI | Sampling Point: DP-03-B

Investigator(s): Robb Roos, Logan Hawley | Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope | Local relief (concave, convex, none): concave

Slope (%): 0% | Lat: 46.196089 | Long: -90.625389 | Datum: NAD83

Soil Map Unit Name: 9050A - Fordum, Totagatic, and Bowstring soils, 0 to 1 percent slopes, frequently flooded | NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	3"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-03-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	10	Yes	FAC
2. *Ulmus americana*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	35	Yes	FACW
2. *Spiraea alba*	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	70	Yes	OBL
2. *Carex stricta*	20	Yes	OBL
3. *Solidago altissima*	2	No	FACU
4. *Salix interior*	1	No	FACW
5. *Thalictrum dasycarpum*	1	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	94	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	57	x 2 =	114
FAC species	10	x 3 =	30
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	159 (A)		242 (B)
Prevalence Index = B/A =			1.52

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-03-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	5YR 3/2	90	5YR 4/4	10	C	M	Sandy Loam	
10-15"	2.5YR 3/3	75	5YR 4/4	25	C	M	Sand	
15-24"	5YR 2.5/1	100					Mucky Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-04-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.206533 Long: -90.630170 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-04-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	30	Yes	FAC
2. *Juniperus virginiana*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix bebbiana*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Equisetum arvense*	20	Yes	FAC
3. *Cornus canadensis*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	10	x 2 =	20
FAC species	55	x 3 =	165
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	145 (A)		325 (B)
Prevalence Index = B/A =			2.24

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-04-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 2.5/2	100					Mucky Sand	
10-24"	5YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- X Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd | City/County: Glidden/Ashland | Sampling Date: 7/11/2016

Applicant/Owner: WisDOT | State: WI | Sampling Point: DP-04-B

Investigator(s): Robb Roos, Logan Hawley | Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope | Local relief (concave, convex, none): concave

Slope (%): 0% | Lat: 46.195981 | Long: -90.625384 | Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes | NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 14"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 8"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-04-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea glauca*	70	Yes	FACU
2. *Thuja occidentalis*	10	No	FACW
3. *Ulmus americana*	5	No	FACW
4.			
5.			
6.			
7.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	65	Yes	FACW
2. *Amaranthus caudatus*	10	No	UPL
3. *Abies balsamea*	5	No	FAC
4.			
5.			
6.			
7.			
	80	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	20	Yes	OBL
2. *Carex grayi*	15	Yes	FACW
3. *Rubus pubescens*	15	Yes	FACW
4. *Maianthemum canadense*	5	No	FACU
5. *Poa palustris*	5	No	FACW
6. *Cornus canadensis*	5	No	FAC
7. *Prunus virginiana*	2	No	FACU
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	67	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	115	x 2 =	230
FAC species	10	x 3 =	30
FACU species	77	x 4 =	308
UPL species	10	x 5 =	50
Column Totals:	232 (A)		638 (B)
Prevalence Index = B/A =			2.75

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-04-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	5YR 3/2	90	5YR 4/4	10	C	M	Sandy Loam	
10-15"	2.5YR 3/3	75	5YR 4/4	25	C	M	Sand	
15-24"	5YR 2.5/1	100					Mucky Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-05-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.208535 Long: -90.633812 Datum: NAD83

Soil Map Unit Name: 9012C - Sayner-Lindquist complex, 6 to 15 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	12"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-05-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	30	Yes	FAC
2. *Populus tremula*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremula*	20	Yes	FAC
2. *Abies balsamea*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Eurybia macrophylla*	35	Yes	UPL
2. *Pteridium aquilinum*	15	Yes	FACU
3. *Cornus canadensis*	10	No	FAC
4. *Clintonia borealis*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	95	x 3 =	285
FACU species	15	x 4 =	60
UPL species	35	x 5 =	175
Column Totals:	145 (A)		520 (B)
Prevalence Index = B/A =			3.59

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ___ Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-05-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/2	100					Loamy Sand	
10-14"	7.5YR 3/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 14"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-05-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.195702 Long: -90.625367 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): 14"
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): 8"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-05-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea glauca*	70	Yes	FACU
2. *Abies balsamea*	5	No	FAC
3. *Populus tremuloides*	2	No	FAC
4.			
5.			
6.			
7.			
	77	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	10	Yes	FACW
2. *Picea glauca*	2	No	FACU
3. *Amaranthus caudatus*	2	No	UPL
4. *Populus balsamifera*	1	No	FACW
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Cornus canadensis*	65	Yes	FAC
2. *trientalis borealis*	15	No	FAC
3. *Maianthemum canadense*	5	No	FACU
4. *Rubus pubescens*	1	No	FACW
5. *Hieracium aurantiacum*	1	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	87	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	12	x 2 =	24
FAC species	87	x 3 =	261
FACU species	77	x 4 =	308
UPL species	3	x 5 =	15
Column Totals:	179 (A)		608 (B)
Prevalence Index = B/A =			3.40

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ___ Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-05-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	5YR 3/1	100					Loamy Sand	
14-24"	5YR 4/2	95	5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-06-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.208499 Long: -90.633740 Datum: NAD83

Soil Map Unit Name: 9012C - Sayner-Lindquist complex, 6 to 15 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	8"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-06-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	35	Yes	FAC
2. *Populus balsamifera*	20	Yes	FACW
3. *Betula papyrifera*	5	No	FACU
4.			
5.			
6.			
7.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Prunus serotina*	15	Yes	FACU
2. *Alnus incana*	10	Yes	FACW
3. *Acer rubrum*	5	No	FAC
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	90	Yes	OBL
2. *Calamagrostis canadensis*	40	Yes	OBL
3. *Cornus canadensis*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	135	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	130	x 1 =	130
FACW species	30	x 2 =	60
FAC species	45	x 3 =	135
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	225 (A)		405 (B)
Prevalence Index = B/A =			1.80

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-06-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/2	100					Sandy Clay	
6-24"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-06-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): concave

Slope (%): 3% Lat: 46.195539 Long: -90.625426 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	>16"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-06-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea glauca*	60	Yes	FACU
2. *Acer rubrum*	10	No	FAC
3. *Ulmus americana*	5	No	FACW
4.			
5.			
6.			
7.			
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Picea glauca*	30	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	15	Yes	FACU
2. *Cornus canadensis*	5	Yes	FAC
3. *Poa pratensis*	2	No	FACU
4. *Populus balsamifera*	1	No	FACW
5. *Acer rubrum*	1	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	24	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	6	x 2 =	12
FAC species	16	x 3 =	48
FACU species	107	x 4 =	428
UPL species	0	x 5 =	0
Column Totals:	129 (A)		488 (B)
Prevalence Index = B/A =			3.78

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-06-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	5YR 2.5/2	100					Loamy Sand	
6-14"	5YR 4/4	100					Sand	
14-24"	5YR 4/3	95	5YR 4/4	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-07-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.210424 Long: -90.637339 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-07-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Lotus corniculatus*	20	Yes	FACU
3. *Poa pratensis*	20	Yes	FACU
4. *Pteridium aquilinum*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	90 (A)		240 (B)
Prevalence Index = B/A =			2.67

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

X Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-07-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/2	100					Loamy Sand	
6-18"	5YR 4/4	100					Sand	Fine sand
18-24"	5YR 3/4	100					Sand	Fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-07-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.198069 Long: -90.625618 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-07-B

Carex gracilima is likely misspelled

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	30	Yes	FAC
2. *Prunus serotina*	3	No	FACU
3.			
4.			
5.			
6.			
7.			
	33	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Prunus serotina*	15	Yes	FACU
2. *Populus tremuloides*	10	Yes	FAC
3. *Amelanchier sanguinea*	5	No	UPL
4. *Spiraea alba*	5	No	FACW
5. *Abies balsamea*	5	No	FAC
6. *Acer rubrum*	2	No	FAC
7.			
	42	= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Rubus idaeus*	15	Yes	FAC
2. *Hieracium caespitosum*	15	Yes	UPL
3. *Pteridium aquilinum*	10	No	FACU
4. *Carex gracilima*	10	No	UPL
5. *Hieracium aurantiacum*	10	No	UPL
6. *Leucanthemum vulgare*	5	No	UPL
7. *Solidago petiolaris*	5	No	UPL
8. *Poa pratensis*	5	No	FACU
9. *Sonchus arvensis*	2	No	FACU
10. *Acer rubrum*	2	No	FAC
11. *Vaccinium angustifolium*	2	No	FACU
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	81	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	64	x 3 =	192
FACU species	37	x 4 =	148
UPL species	50	x 5 =	250
Column Totals:	156 (A)		600 (B)
Prevalence Index = B/A =			3.85

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ___ Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-07-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	5YR 4/4	100					Sand	
12-24"	5YR 5/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-08-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.210473 Long: -90.637364 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-08-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	80	Yes	FACW
2. *Onoclea sensibilis*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		170 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes x No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-08-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/1	100					Mucky Sand	
6-24"	5YR 4/3	100					Sand	Fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- X Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-08-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.198146 Long: -90.625665 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 14"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 12"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-08-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Spiraea alba*	15	Yes	FACW
2. *Symphyotrichum tradescantii*	15	Yes	FACW
3. *Agrostis gigantea*	10	Yes	FACW
4. *Phalaris arundinacea*	10	Yes	FACW
5. *Iris virginica*	10	Yes	OBL
6. *Salix petiolaris*	5	No	FACW
7. *Salix discolor*	5	No	FACW
8. *Poa pratensis*	5	No	FACU
9. *Acer rubrum*	5	No	FAC
10. *Phleum pratense*	3	No	FACU
11. *Rubus pubescens*	3	No	FACW
12. *Alnus incana*	2	No	FACW
13. *Calamagrostis canadensis*	2	No	OBL
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	12	x 1 =	12
FACW species	65	x 2 =	130
FAC species	5	x 3 =	15
FACU species	8	x 4 =	32
UPL species	0	x 5 =	0
Column Totals:	90 (A)		189 (B)
Prevalence Index = B/A =			2.10

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-08-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	5YR 4/2	95	5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-09-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.210960 Long: -90.638193 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-09-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex utriculata*	25	Yes	OBL
2. *Carex crinita*	20	Yes	OBL
3. *Glyceria canadensis*	10	No	OBL
4. *Calamagrostis canadensis*	10	No	OBL
5. *Persicaria sagittata*	10	No	OBL
6. *Carex stipata*	5	No	OBL
7. *Glyceria grandis*	5	No	OBL
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		85 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-09-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	
16-24"	7.5YR 3/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-09-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.198402 Long: -90.625558 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-09-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea glauca*	10	Yes	FACU
2. *Abies balsamea*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix interior*	40	Yes	FACW
2. *Alnus incana*	40	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	80	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex tuckermanii*	25	Yes	OBL
2. *Onoclea sensibilis*	15	Yes	FACW
3. *Alnus incana*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	100	x 2 =	200
FAC species	5	x 3 =	15
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	140 (A)		280 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-09-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	10YR 2/1	100					Muck	
14-20"	10YR 4/1	95	10YR 4/4	5	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-10-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.210894 Long: -90.638223 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-10-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Danthonia spicata*	40	Yes	UPL
2. *Rubus pubescens*	15	Yes	FACW
3. *Acer rubrum*	10	No	FAC
4. *Equisetum arvense*	5	No	FAC
5. *Achillea millefolium*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	5	x 4 =	20
UPL species	40	x 5 =	200
Column Totals:	75 (A)		295 (B)
Prevalence Index = B/A =			3.93

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-10-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 3/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 14"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-10-B

Investigator(s): Robb Roos, Logan Hawley Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.198499 Long: -90.625631 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-10-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	60	Yes	OBL
2. *Scirpus atrocinctus*	3	No	OBL
3. *Calamagrostis canadensis*	2	No	OBL
4. *Comarum palustre*	2	No	OBL
5. *Carex crinita*	1	No	OBL
6. *Carex tuckermanii*	1	No	OBL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	69	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	69	x 1 =	69
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	69 (A)		69 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-10-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 2/2	100					Muck	
12-24"	10YR 2/2	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-11-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 0% Lat: 46.212360 Long: -90.640878 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-11-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	70	Yes	FACW
2. *Solidago gigantea*	10	No	FACW
3. *Ranunculus acris*	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		190 (B)
Prevalence Index = B/A =			2.11

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-11-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 4/2	95	7.5YR 4/4	5	C	M	Sandy Loam	
10-24"	5YR 4/4	90	7.5YR 4/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:
8" duff layer.

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-11-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.201514 Long: -90.625860 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-11-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	10	Yes	FAC
2. *Populus tremuloides*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	25	Yes	FACW
2. *Spiraea alba*	15	Yes	FACW
3. *Acer rubrum*	10	No	FAC
4. *Salix bebbiana*	10	No	FACW
5.			
6.			
7.			
	60	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Impatiens capensis*	35	Yes	FACW
2. *Calamagrostis canadensis*	35	Yes	OBL
3. *Rubus pubescens*	10	No	FACW
4. *Glyceria grandis*	10	No	OBL
5. *Equisetum arvense*	5	No	FAC
6. *Salix interior*	5	No	FACW
7. *Populus tremuloides*	5	No	FAC
8. *Eurybia macrophylla*	2	No	UPL
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	107	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	100	x 2 =	200
FAC species	35	x 3 =	105
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	182 (A)		360 (B)
Prevalence Index = B/A =			1.98

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-11-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 3/2	100					Sandy loam	
10-24"	10YR 4/2	95	10YR 4/6	5	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-12-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.212375 Long: -90.640850 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-12-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Danthonia spicata*	20	Yes	UPL
3. *Eurybia macrophylla*	15	Yes	UPL
4. *Maianthemum canadense*	10	No	FACU
5. *Acer rubrum*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	30	x 4 =	120
UPL species	35	x 5 =	175
Column Totals:	70 (A)		310 (B)
Prevalence Index = B/A =			4.43

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-12-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13"	7.5YR 3/2	100					Loam	
13-24"	7.5YR 4/3	70	7.5YR 5/2	30	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-12-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Summit Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.201513 Long: -90.625919 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-12-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Leucanthemum vulgare*	10	No	UPL
3. *Achillea millefolium*	5	No	FACU
4. *Erigeron canadensis*	5	No	FACU
5. *Plantago lanceolata*	5	No	FACU
6. *Poa pratensis*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	10	x 5 =	50
Column Totals:	90 (A)		370 (B)
Prevalence Index = B/A =			4.11

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-12-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	10YR 3/3	100					Sand	
2-16"	7.5YR 3/4	75	7.5YR 3/3	25	C	M	Sand	Mixed Matrix
16-24"	7.5YR 2.5/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-13-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.213182 Long: -90.642189 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-13-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	40	Yes	FACW
2. *Acer rubrum*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	30	Yes	OBL
2. *Calamagrostis canadensis*	15	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	40	x 2 =	80
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		155 (B)
Prevalence Index = B/A =			1.63

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-13-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 2.5/1	100					Muck	
16-24"	5YR 4/4	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-13-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.201159 Long: -90.625795 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-13-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	5	Yes	FAC
2. *Larix laricina*	2	Yes	FACW
3. *Prunus virginiana*	2	Yes	FACU
4.			
5.			
6.			
7.			
	9	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	10	Yes	FACW
2. *Populus tremuloides*	2	No	FAC
3. *Acer rubrum*	2	No	FAC
4.			
5.			
6.			
7.			
	14	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Euthamia graminifolia*	25	Yes	FAC
2. *Cornus canadensis*	25	Yes	FAC
3. *Rubus pubescens*	15	No	FACW
4. *Onoclea sensibilis*	5	No	FACW
5. *Doellingeria umbellata*	5	No	FACW
6. *Juncus effusus*	5	No	OBL
7. *Typha angustifolia*	2	No	OBL
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	82	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	7	x 1 =	7
FACW species	37	x 2 =	74
FAC species	59	x 3 =	177
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	105 (A)		266 (B)
Prevalence Index = B/A =			2.53

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-13-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 2/2	100					Loam	
8-14"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Clay Loam	
14-24"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-14-A

Investigator(s): Zach Waechter, Will Taylor Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.213147 Long: -90.642193 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-14-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Acer rubrum*	20	Yes	FAC
2. *Lonicera canadensis*	15	Yes	FACU
3. *Cornus racemosa*	10	No	FAC
4. *Rubus idaeus*	10	No	FAC
5.			
6.			
7.			
	55	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Rubus pubescens*	20	Yes	FACW
2. *Cornus canadensis*	10	Yes	FAC
3. *Athyrium filix-femina*	10	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	50	x 3 =	150
FACU species	15	x 4 =	60
UPL species	10	x 5 =	50
Column Totals:	95 (A)		300 (B)
Prevalence Index = B/A =			3.16

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ___ Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-14-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-24"	5YR 4/4	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-14-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.201150 Long: -90.625873 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-14-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	80	Yes	FACU
2. *Achillea millefolium*	30	Yes	FACU
3. *Gaultheria procumbens*	15	No	FACU
4. *Rubus idaeus*	15	No	FAC
5. *Hieracium caespitosum*	2	No	UPL
6. *Lotus corniculatus*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	144	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	127	x 4 =	508
UPL species	2	x 5 =	10
Column Totals:	144 (A)		563 (B)
Prevalence Index = B/A =			3.91

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-14-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1"	10YR 2/2	100					Sandy Loam	
1-18"	7.5YR 5/4	100					Sand	
18-24"	5YR 2.5/2	30	7.5YR 5/4	70		M	Sand	Mixed Matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-15-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.214357 Long: -90.644315 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 6"
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-15-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Acer saccharum*	5	No	FACU
3. *Onoclea sensibilis*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	70 (A)		90 (B)
Prevalence Index = B/A =			1.29

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-15-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 2.5/1	100					Loam	
3-6"	7.5YR 4/4	100					Sand	
6-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-15-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.200090 Long: -90.625763 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-15-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	35	Yes	FACW
2. *Ranunculus acris*	25	Yes	FAC
3. *Prunella vulgaris*	10	No	FAC
4. *Equisetum arvense*	10	No	FAC
5. *Iris versicolor*	10	No	OBL
6. *Euthamia graminifolia*	5	No	FAC
7. *Scirpus cyperinus*	5	No	OBL
8. *Acer rubrum*	5	No	FAC
9. *Pteridium aquilinum*	5	No	FACU
10. *Arenaria stricta*	2	No	UPL
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	112	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	50	x 2 =	100
FAC species	55	x 3 =	165
FACU species	5	x 4 =	20
UPL species	2	x 5 =	10
Column Totals:	127 (A)		310 (B)
Prevalence Index = B/A =			2.44

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-15-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/1	100					Loamy Sand	
6-8"	10YR 3/1	90	5G 3/2	10	D	M	Loamy Sand	
8-24"	10YR 5/2	90	7.5YR 5/8	10	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-16-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.215188 Long: -90.645881 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-16-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	80	Yes	FACW
2. *Symphyotrichum lanceolatum*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		170 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-16-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 3/2	100					Loam	
8-14"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Loam	
14-20"	7.5YR 2.5/1	100					Loam	
20-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-16-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.200114 Long: -90.625840 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-16-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	25	Yes	FACU
2. *Potentilla simplex*	20	Yes	FACU
3. *Eurybia macrophylla*	20	Yes	UPL
4. *Achillea millefolium*	15	No	FACU
5. *Danthonia spicata*	5	No	UPL
6. *Pteridium aquilinum*	5	No	FACU
7. *Hieracium caespitosum*	5	No	UPL
8. *Prunella vulgaris*	2	No	FAC
9. *Acer rubrum*	2	No	FAC
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	99	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	4	x 3 =	12
FACU species	65	x 4 =	260
UPL species	30	x 5 =	150
Column Totals:	99 (A)		422 (B)
Prevalence Index = B/A =			4.26

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-16-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 2.5/2	100					Loamy Sand	
3-26"	7.5YR 3/4	100					Sand	
26-36"	10YR 2/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-17-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.215175 Long: -90.645806 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-17-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	90	Yes	FACU
2. *Leucanthemum vulgare*	5	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	5	x 5 =	25
Column Totals:	95 (A)		385 (B)
Prevalence Index = B/A =			4.05

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-17-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	7.5YR 3/2	100					Loam	
12-24"	7.5YR 4/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-17-B

Investigator(s): Jameson Loesch, Ken Carlson Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.244601 Long: -90.677780 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-17-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix bebbiana*	15	Yes	FACW
2. *Spiraea alba*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	50	Yes	OBL
2. *Typha latifolia*	10	No	OBL
3. *Onoclea sensibilis*	10	No	FACW
4. *Juncus effusus*	5	No	OBL
5. *Rubus pubescens*	5	No	FACW
6. *Eurybia macrophylla*	5	No	UPL
7. *Asclepias incarnata*	2	No	OBL
8. *Phalaris arundinacea*	2	No	FACW
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	89	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	67	x 1 =	67
FACW species	42	x 2 =	84
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	114 (A)		176 (B)
Prevalence Index = B/A =			1.54

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-17-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/3	100					Peat	
6-10"	10YR 3/3	100					andy Clay Loa	
10-16"	10YR 2/2	90	10YR 4/2	10	D	M	andy Clay Loa	
16-24"	10YR 5/2	80	10YR 2/1	15		M	Sand	Mixed Matrix
			10YR 6/8	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-18-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.217743 Long: -90.650500 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-18-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Solidago gigantea*	20	Yes	FACW
3. *Poa pratensis*	10	No	FACU
4. *Eurybia macrophylla*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	5	x 5 =	25
Column Totals:	95 (A)		345 (B)
Prevalence Index = B/A =			3.63

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-18-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	7.5YR 3/2	100					Sandy Loam	
12-24"	7.5YR 3/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-18-B

Investigator(s): Zach Waechter Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.244578 Long: -90.677817 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-18-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	60	Yes	FACU
2. *Fragaria virginiana*	20	Yes	FACU
3. *Lotus corniculatus*	5	No	FACU
4. *Onoclea sensibilis*	5	No	FACW
5. *Taraxacum officinale*	2	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	87	x 4 =	348
UPL species	0	x 5 =	0
Column Totals:	92 (A)		358 (B)
Prevalence Index = B/A =			3.89

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-18-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-22"	10YR 3/4	100					Sandy Loam	Gravely
22-24"	10YR 4/3	98	10YR 6/8	2	C	M	Clay	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-19-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.217814 Long: -90.650567 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO1/4Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-19-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Juncus effusus*	10	No	OBL
3. *Solidago canadensis*	5	No	FACU
4. *Carex stipata*	5	No	OBL
5. *Carex bebbii*	5	No	OBL
6. *Carex crinita*	5	No	OBL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	90 (A)		105 (B)
Prevalence Index = B/A =			1.17

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-19-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/1	100					Loamy Sand	Mixed W/ Gravel Fill
8-30"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-19-B

Investigator(s): Zach Waechter Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.244229 Long: -90.677208 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	16"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	12"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-19-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	40	Yes	OBL
2. *Solidago gigantea*	20	Yes	FACW
3. *Onoclea sensibilis*	15	No	FACW
4. *Calamagrostis canadensis*	15	No	OBL
5. *Symphyotrichum lanceolatum*	10	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		145 (B)
Prevalence Index = B/A =			1.45

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-19-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 2/2	100					Mucky Loam	Gravely
4-10"	10YR 2/2	100					Sandy Loam	Gravely
10-20"	10YR 2/2	100					Sand	
20-24"	10YR 3/4	80	10YR 2/2	20	RM	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-20-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.220757 Long: -90.656052 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-20-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	60	Yes	OBL
2. *Juncus effusus*	10	No	OBL
3. *Carex bebbii*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		75 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-20-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-20-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.244213 Long: -90.677343 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-20-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	50	Yes	FACU
2. *Fragaria virginiana*	25	Yes	FACU
3. *Danthonia spicata*	10	No	UPL
4. *Leucanthemum vulgare*	10	No	UPL
5. *Achillea millefolium*	2	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	77	x 4 =	308
UPL species	20	x 5 =	100
Column Totals:	97 (A)		408 (B)
Prevalence Index = B/A =			4.21

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-20-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 3/3	100					Loamy Sand	
4-10"	10YR 3/4	100					Sand	
10-24"	10YR 3/6	100					Sand	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-21-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 0% Lat: 46.223110 Long: -90.660183 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	15"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-21-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	80	Yes	FACU
2. *Poa pratensis*	10	No	FACU
3. *Eurybia macrophylla*	5	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	5	x 5 =	25
Column Totals:	95 (A)		385 (B)
Prevalence Index = B/A =			4.05

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-21-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	100					Sand	
4-20"	7.5YR 3/4	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-21-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.242997 Long: -90.675650 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-21-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	85	Yes	FACW
2. *Cornus racemosa*	5	No	FAC
3. *Salix interior*	5	No	FACW
4. *Salix bebbiana*	5	No	FACW
5.			
6.			
7.			
	100	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	20	Yes	OBL
2. *Impatiens capensis*	10	Yes	FACW
3. *Thalictrum dasycarpum*	5	No	FACW
4. *Rubus pubescens*	5	No	FACW
5. *Calamagrostis canadensis*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	115	x 2 =	230
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	145 (A)		270 (B)
Prevalence Index = B/A =			1.86

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-21-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 2/2	100					Peat	
10-12"	10YR 2/2	100					Silt	
12-24"	10YR 3/3	100					Silt	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-22-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 3% Lat: 46.223078 Long: -90.660099 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-22-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	95	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		190 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-22-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 2.5/2	100					Peat	
9-12"	7.5YR 4/3						Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- X 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-22-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.242961 Long: -90.675702 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-22-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix interior*	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	45	Yes	OBL
2. *Onoclea sensibilis*	15	No	FACW
3. *Calamagrostis canadensis*	15	No	OBL
4. *Impatiens capensis*	10	No	FACW
5. *Symphyotrichum lanceolatum*	5	No	FACW
6. *Scirpus atrovirens*	5	No	OBL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		135 (B)
Prevalence Index = B/A =			1.35

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-22-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1"	10YR 2/2	100					Peat	
1-6"	10YR 2/2	100					Loamy Sand	
6-20"	10YR 2/2	95	10YR 5/6	5	C	M	Loamy Sand	Gravely
20-24"	10YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-23-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 1% Lat: 46.224861 Long: -90.663395 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	18"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-23-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Elymus repens*	40	Yes	FACU
2. *Rubus pubescens*	20	Yes	FACW
3. *Solidago canadensis*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	70 (A)		240 (B)
Prevalence Index = B/A =			3.43

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-23-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 4/3	100					Sand	
18-24"	7.5YR 4/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-23-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.242924 Long: -90.675769 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-23-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Ambrosia artemisiifolia*	15	Yes	FACU
3. *Rubus idaeus*	10	No	FAC
4. *Hieracium caespitosum*	10	No	UPL
5. *Achillea millefolium*	5	No	FACU
6. *Taraxacum officinale*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	82	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	62	x 4 =	248
UPL species	10	x 5 =	50
Column Totals:	82 (A)		328 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-23-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 3/3	100					Sand	Gravely
8-16"	10YR 3/6	100					Sand	Gravely
16-24"	7.5YR 4/6	100					Sand	Coarse

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-24-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.224947 Long: -90.663386 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-24-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria canadensis*	50	Yes	OBL
2. *Calamagrostis canadensis*	30	Yes	OBL
3. *Juncus effusus*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		85 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-24-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/1	100					Mucky Loam	
8-24"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-24-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.243843 Long: -90.677307 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-24-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Cornus racemosa*	5	Yes	FAC
2. *Alnus incana*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria canadensis*	20	Yes	OBL
2. *Persicaria sagittata*	15	Yes	OBL
3. *Carex crinita*	10	No	OBL
4. *Doellingeria umbellata*	10	No	FACW
5. *Solidago gigantea*	10	No	FACW
6. *Euthamia graminifolia*	5	No	FAC
7. *Calamagrostis canadensis*	5	No	OBL
8. *Carex lacustris*	5	No	OBL
9. *Symphyotrichum puniceum*	5	No	OBL
10. *Impatiens capensis*	2	No	FACW
11. *Juncus effusus*	2	No	OBL
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	89	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	62	x 1 =	62
FACW species	27	x 2 =	54
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	99 (A)		146 (B)
Prevalence Index = B/A =			1.47

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-24-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 2/2	100					Mucky Loam	
6-24"	10YR 2/1	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-25-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.227111 Long: -90.667304 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-25-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	30	Yes	FACU
2. *Agrostis gigantea*	15	Yes	FACW
3. *Pteridium aquilinum*	15	Yes	FACU
4. *Prunella vulgaris*	5	No	FAC
5. *Achillea millefolium*	5	No	FACU
6. *Solidago canadensis*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	5	x 3 =	15
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals:	75 (A)		265 (B)
Prevalence Index = B/A =			3.53

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-25-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	7.5YR 2.5/1	100					Sand	
2-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-25-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 5% Lat: 46.243845 Long: -90.677251 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 12"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-25-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	70	Yes	FACU
2. *Rubus idaeus*	20	No	FAC
3. *Solidago canadensis*	15	No	FACU
4. *Onoclea sensibilis*	5	No	FACW
5. *Poa pratensis*	5	No	FACU
6. *Scirpus atrovirens*	5	No	OBL
7. *Euthamia graminifolia*	5	No	FAC
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	125	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	5	x 2 =	10
FAC species	25	x 3 =	75
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	125 (A)		450 (B)
Prevalence Index = B/A =			3.60

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-25-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 3/3	100					Loamy Sand	
4-26"	10YR 3/6	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-26-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.227133 Long: -90.667240 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-26-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	20	Yes	OBL
2. *Scirpus atrovirens*	15	Yes	OBL
3. *Typha latifolia*	10	No	OBL
4. *Phalaris arundinacea*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		65 (B)
Prevalence Index = B/A =			1.18

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-26-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/2	100					Muck	
6-24"	7.5YR 4/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-26-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.243125 Long: -90.676415 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	Un	

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X	Surface Water (A1)	X	Water-Stained Leaves (B9)
X	High Water Table (A2)	____	Aquatic Fauna (B13)
X	Saturation (A3)	____	Marl Deposits (B15)
____	Water Marks (B1)	____	Hydrogen Sulfide Odor (C1)
____	Sediment Deposits (B2)	____	Oxidized Rhizospheres on Living Roots (C3)
____	Drift Deposits (B3)	____	Presence of Reduced Iron (C4)
____	Algal Mat or Crust (B4)	____	Recent Iron Reduction in Tilled Soils (C6)
____	Iron Deposits (B5)	____	Thin Muck Surface (C7)
____	Inundation Visible on Aerial Imagery (B7)	____	Other (Explain in Remarks)
____	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

____	Surface Soil Cracks (B6)
____	Drainage Patterns (B10)
____	Moss Trim Lines (B16)
____	Dry-Season Water Table (C2)
____	Crayfish Burrows (C8)
____	Saturation Visible on Aerial Imagery (C9)
____	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
____	Shallow Aquitard (D3)
____	Microtopograpic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-26-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix interior*	2	No	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	2	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	70	Yes	OBL
2. *Scirpus atrovirens*	15	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	87 (A)		89 (B)
Prevalence Index = B/A =			1.02

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-26-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	10YR 3/4	100					Peat	
3-10"	10YR 2/1	100					Silty Clay	
10-12"	10YR 2/1	100					Sandy Clay	
12-24"	10YR 5/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-27-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 1% Lat: 46.227739 Long: -90.668132 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-27-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Danthonia spicata*	40	Yes	UPL
2. *Onoclea sensibilis*	20	Yes	FACW
3. *Agrostis gigantea*	10	No	FACW
4. *Solidago gigantea*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	40	x 5 =	200
Column Totals:	75 (A)		270 (B)
Prevalence Index = B/A =			3.60

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-27-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	100					Loamy Sand	
4-24"	5YR 3/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-27-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.243143 Long: -90.676352 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 16"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 8"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-27-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	15	Yes	FACW
2. *Ribes oxyacanthoides*	5	Yes	FACU
3. *Picea mariana*	2	No	FACW
4. *Alnus incana*	2	No	FACW
5.			
6.			
7.			
	24	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	60	Yes	FACW
2. *Scirpus atrovirens*	25	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	79	x 2 =	158
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	109 (A)		203 (B)
Prevalence Index = B/A =			1.86

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-27-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 2/2	100					Silty Clay Loam	
4-10"	7.5YR 4/2	60	7.5YR 5/8	10	C	M	Sandy Clay Loam	Mixed Matrix
	10YR 2/1	20						Mixed Matrix
10-18"	10YR 3/4	90	10YR 5/1	10	D	M	Silty Clay	
18-24"	10YR 2/2	90	10YR 5/1	10	D	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-28-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.227766 Long: -90.668081 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-28-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	30	Yes	OBL
2. *Juncus effusus*	20	Yes	OBL
3. *Scirpus atrovirens*	10	No	OBL
4. *Onoclea sensibilis*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		80 (B)
Prevalence Index = B/A =			1.14

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-28-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/2	100					Muck	
8-24"	7.5YR 4/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-28-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.243181 Long: -90.676328 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-28-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Ambrosia artemisiifolia*	30	Yes	FACU
2. *Poa Pratensis*	25	Yes	FACU
3. *Phleum pratense*	15	No	FACU
4. *Leucanthemum vulgare*	5	No	UPL
5. *Hieracium caespitosum*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	10	x 5 =	50
Column Totals:	80 (A)		330 (B)
Prevalence Index = B/A =			4.13

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-28-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	10YR 3/3	100					Sandy Loam	
2-8"	10YR 3/4	100					Loamy Sand	Gravely
8-20"	10YR 4/3	100					Sand	Gravely
20-24"	10YR 4/3	80	10YR 2/1	20	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-29-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.229788 Long: -90.669600 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 8"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 6"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-29-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Comarum palustre*	30	Yes	OBL
2. *Solidago gigantea*	20	Yes	FACW
3. *Juncus effusus*	15	Yes	OBL
4. *Carex lacustris*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		95 (B)
Prevalence Index = B/A =			1.27

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-29-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 4/3	100					Sand	Sand W/Gravel Fill
18-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-29-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.241841 Long: -90.674831 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____ No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	6"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-29-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	20	Yes	OBL
2. *Rubus idaeus*	15	Yes	FAC
3. *Carex bebbii*	10	Yes	OBL
4. *Scirpus atrovirens*	10	Yes	OBL
5. *Juncus effusus*	10	Yes	OBL
6. *Calamagrostis canadensis*	10	Yes	OBL
7. *Euthamia graminifolia*	5	No	FAC
8. *Scirpus cyperinus*	5	No	OBL
9. *Equisetum arvense*	5	No	FAC
10. *Hieracium aurantiacum*	5	No	UPL
11. *Corylus americana*	2	No	FACU
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	2	x 4 =	8
UPL species	5	x 5 =	25
Column Totals:	97 (A)		173 (B)
Prevalence Index = B/A =			1.78

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-29-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 3/3	100					Sandy Clay Loam	
4-16"	10YR 2/2	95	7.5YR 5/8	5	C	M	Sandy Loam	
16-24"	10YR 3/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/25/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-30-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.229801 Long: -90.669637 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-30-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	60	Yes	FACU
2. *Rubus pubescens*	5	No	FACW
3. *Onoclea sensibilis*	5	No	FACW
4. *Geranium maculatum*	5	No	FACU
5. *Achillea millefolium*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	80 (A)		300 (B)
Prevalence Index = B/A =			3.75

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-30-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/2	100					Loamy Sand	
6-24"	7.5YR 4/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-30-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.241784 Long: -90.674747 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-30-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Apocynum androsaemifolium*	15	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Rubus idaeus*	80	Yes	FAC
2. *Pteridium aquilinum*	15	No	FACU
3. *Eurybia macrophylla*	5	No	UPL
4. *Cirsium vulgare*	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	102	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	17	x 4 =	68
UPL species	20	x 5 =	100
Column Totals:	117 (A)		408 (B)
Prevalence Index = B/A =			3.49

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-30-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 3/4	100					Sandy Loam	
4-8"	7.5YR 4/6	100					Sand	
8-18"	7.5YR 2.5/3	100					Sandy Loam	
18-24"	7.5YR 4/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-31-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 4% Lat: 46.231602 Long: -90.670002 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-31-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	30	Yes	FACU
2. *Trifolium hybridum*	20	Yes	FACU
3. *Lotus corniculatus*	10	No	FACU
4. *Rubus pubescens*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	70 (A)		260 (B)
Prevalence Index = B/A =			3.71

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-31-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	100					Sandy Loam	
4-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-31-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.240400 Long: -90.672983 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-31-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus canadensis*	50	Yes	OBL
2. *Calamagrostis canadensis*	20	Yes	OBL
3. *Juncus effusus*	10	No	OBL
4. *Glyceria grandis*	5	No	OBL
5. *Solidago gigantea*	5	No	FACW
6. *Onoclea sensibilis*	2	No	FACW
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	7	x 2 =	14
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	92 (A)		99 (B)
Prevalence Index = B/A =			1.08

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-31-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	95	7.5YR 4/6	5	C	M	Silt Loam	
4-18"	7.5YR 3/3	95	7.5YR 4/4	5	C	M	andy Clay Loa	
18-24"	7.5YR 4/6	95	7.5YR 5/6	5	C	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-32-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): concave

Slope (%): 3% Lat: 46.231603 Long: -90.669958 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- x FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-32-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Scirpus atrovirens*	15	Yes	OBL
3. *Juncus effusus*	15	Yes	OBL
4. *Phalaris arundinacea*	5	No	FACW
5. *Carex crinita*	5	No	OBL
6. *Aster lanceolatus*	5	No	FACW
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Symphyotrichum lanceolatum > Aster lanceolati	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		95 (B)
Prevalence Index = B/A =			1.12

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- _____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- _____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes x No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-32-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/3	100					Sand	
5-24"	7.5YR 4/2	95	7.5YR 4/4	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-32-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.238311 Long: -90.670937 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-32-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Festuca arundinacea*	25	Yes	FACU
2. *Lotus corniculatus*	20	Yes	FACU
3. *Ambrosia artemisiifolia*	15	Yes	FACU
4. *Poa pratensis*	10	No	FACU
5. *Hieracium aurantiacum*	10	No	UPL
6. *Plantago lanceolata*	10	No	FACU
7. *Fragaria virginiana*	5	No	FACU
8. *Leucanthemum vulgare*	2	No	UPL
9. *Taraxacum officinale*	2	No	FACU
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Schedonorus arundinaceus > Festuca arundinac	99	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	87	x 4 =	348
UPL species	12	x 5 =	60
Column Totals:	99 (A)		408 (B)
Prevalence Index = B/A =			4.12

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-32-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/4	100					Sandy Loam	Gravely
6-32"	7.5YR 3/4	100					Sand	
32-36"	7.5YR 3/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-33-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 12% Lat: 46.238710 Long: -90.669958 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No x
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-33-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Danthonia sericea*	45	Yes	FACU
2. *Rubus pubescens*	10	No	FACW
3. *Lotus corniculatus*	10	No	FACU
4. *Solidago canadensis*	10	No	FACU
5. *Trifolium hybridum*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	80 (A)		300 (B)
Prevalence Index = B/A =			3.75

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-33-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 2.5/2	100					Sandy Loam	
7-18"	7.5YR 4/3	100					Loamy Sand	
18-24"	7.5YR 4/3	95	7.5YR 5/6	5			Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-33-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.238277 Long: -90.670986 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-33-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Typha latifolia*	10	Yes	OBL
3. *Carex crinita*	10	Yes	OBL
4. *Calamagrostis canadensis*	10	Yes	OBL
5. *Juncus effusus*	10	Yes	OBL
6. *Carex bebbii*	5	No	OBL
7. *Juncus canadensis*	5	No	OBL
8. *Scirpus atrovirens*	2	No	OBL
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	52	x 1 =	52
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	92 (A)		132 (B)
Prevalence Index = B/A =			1.43

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-33-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	10YR 2/1	100					Silt Loam	
3-12"	10YR 2/2	95	10YR 5/6	5	C	M	Sandy Clay	
12-18"	10YR 2/2	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 18"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-34-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.238720 Long: -90.670797 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-34-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	55	Yes	OBL
2. *Carex crinita*	15	No	OBL
3. *Scirpus atrovirens*	10	No	OBL
4. *Juncus effusus*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		90 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-34-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-24"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-34-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 5% Lat: 46.237025 Long: -90.670590 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-34-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	25	Yes	OBL
2. *Solidago gigantea*	20	Yes	FACW
3. *Scirpus atrovirens*	15	Yes	OBL
4. *Phalaris arundinacea*	15	Yes	FACW
5. *Juncus canadensis*	5	No	OBL
6. *Carex crinita*	5	No	OBL
7. *Carex bebbii*	5	No	OBL
8. *Euthamia graminifolia*	5	No	FAC
9. *Lotus corniculatus*	2	No	FACU
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	35	x 2 =	70
FAC species	5	x 3 =	15
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	97 (A)		148 (B)
Prevalence Index = B/A =			1.53

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-34-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 2/2	100					Sandy Clay Loam	
6-14"	10YR 2/2	90	10YR 6/8	10	C	M	Sandy Clay Loam	
14-22"	10YR 2/2	80	5YR 4/6	20	RM	M	Sandy Clay	
22-24"	7.5YR 3/4	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-35-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 60% Lat: 46.234085 Long: -90.670428 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: R2UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-35-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Solidago canadensis*	20	Yes	FACU
3. *Eurybia macrophylla*	5	No	UPL
4. *Bromus inermis*	5	No	UPL
5. *Achillea millefolium*	1	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	71	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	61	x 4 =	244
UPL species	10	x 5 =	50
Column Totals:	71 (A)		294 (B)
Prevalence Index = B/A =			4.14

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-35-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 2.5/2	100					Sandy Loam	
14-24"	7.5YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-35-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.237038 Long: -90.670525 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-35-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Achillea millefolium*	35	Yes	FACU
2. *Poa pratensis*	20	Yes	FACU
3. *Rubus idaeus*	15	No	FAC
4. *Lotus corniculatus*	10	No	FACU
5. *Plantago lanceolata*	10	No	FACU
6. *Fragaria virginiana*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	95 (A)		365 (B)
Prevalence Index = B/A =			3.84

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-35-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 3/4	100					Sandy Loam	Gravely
18-24"	7.5YR 3/2	100					Sandy Loam	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-36-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.231435 Long: -90.670341 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-36-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	70	Yes	OBL
2. *Scirpus cyperinus*	15	No	OBL
3. *Agrostis gigantea*	5	No	FACW
4. *Poa palustris*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		105 (B)
Prevalence Index = B/A =			1.11

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-36-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 10"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-36-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.195717 Long: -90.625821 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	4"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-36-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	60	Yes	FAC
2. *Populus tremuloides*	10	No	FAC
3. *Ulmus americana*	10	No	FACW
4.			
5.			
6.			
7.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	35	Yes	FACW
2. *Acer saccharum*	5	No	FACU
3. *Spiraea alba*	2	No	FACW
4.			
5.			
6.			
7.			
	42	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria laxa*	50	Yes	OBL
2. *Equisetum arvense*	25	Yes	FAC
3. *Solidago gigantea*	10	No	FACW
4. *Carex bebbii*	5	No	OBL
5. *Rubus pubescens*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	62	x 2 =	124
FAC species	95	x 3 =	285
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	217 (A)		484 (B)
Prevalence Index = B/A =			2.23

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-36-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/1	100					Silt Loam	
6-14"	10YR 3/2	95	10YR 5/4	5	C	M	Silt Loam	
14-24"	10YR 3/4	95	10YR 5/6	5	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-37-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.231427 Long: -90.670363 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-37-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	40	Yes	FACU
2. *Poa pratensis*	15	Yes	FACU
3. *Eurybia macrophylla*	15	Yes	UPL
4. *Solidago canadensis*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	15	x 5 =	75
Column Totals:	75 (A)		315 (B)
Prevalence Index = B/A =			4.20

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-37-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/2	100					Sandy Loam	
10-24"	7.5YR 3/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-37-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.195744 Long: -90.625745 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? Yes X No ____ Depth (inches): >16"

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-37-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	60	Yes	FACU
2. *Danthonia spicata*	10	No	UPL
3. *Elytrigia repens*	10	No	FACU
4. *Lotus corniculatus*	5	No	FACU
5. *Fragaria virginiana*	5	No	FACU
6. *Leucanthemum vulgare*	1	No	UPL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Elymus repens > Elytrigia repens.	91	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	11	x 5 =	55
Column Totals:	91 (A)		375 (B)
Prevalence Index = B/A =			4.12

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-37-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/3	100					Sandy Loam	
6-32"	7.5YR 3/3	100					Sand	
32-36"	5YR 3/4	95	7.5YR 4/6	5	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- X Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-38-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.229703 Long: -90.669981 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-38-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Eurybia macrophylla*	10	No	UPL
3. *Poa pratensis*	10	No	FACU
4. *Apocynum androsaemifolium*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	15	x 5 =	75
Column Totals:	85 (A)		355 (B)
Prevalence Index = B/A =			4.18

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-38-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 3/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-38-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.196198 Long: -90.625919 Datum: NAD83

Soil Map Unit Name: 9050A - Fordum, Totagatic, and Bowstring soils, 0 to 1 percent slopes, frequently flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-38-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	5	Yes	FACW
2. *Alnus incana*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	50	Yes	OBL
2. *Carex stricta*	35	Yes	OBL
3. *Thalictrum dasycarpum*	5	No	FACW
4. *Symphyotrichum lanceolatum*	5	No	FACW
5. *Eutrochium purpureum*	2	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	20	x 2 =	40
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	107 (A)		131 (B)
Prevalence Index = B/A =			1.22

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-38-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 2/1	98	10YR 5/6	2	C	M	Clay Loam	
12-26"	10YR 2/1	100					Silty Clay	
26-36"	10YR 3/2	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-39-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.229683 Long: -90.669916 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? Yes X No ____ Depth (inches): 6"

(includes capillary fringe)

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-39-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	15	Yes	OBL
2. *Juncus effusus*	15	Yes	OBL
3. *Onoclea sensibilis*	5	No	FACW
4. *Carex bebbii*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	40 (A)		45 (B)
Prevalence Index = B/A =			1.13

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-39-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sandy Loam	
20-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-39-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 1% Lat: 46.200922 Long: -90.626214 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-39-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	10	Yes	FACW
2. *Salix interior*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	30	Yes	OBL
2. *Spiraea alba*	20	Yes	FACW
3. *Calamagrostis canadensis*	20	Yes	OBL
4. *Typha latifolia*	10	No	OBL
5. *Carex bebbii*	5	No	OBL
6. *Onoclea sensibilis*	5	No	FACW
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		155 (B)
Prevalence Index = B/A =			1.41

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-39-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 4/3	100					Silt Loam	
4-12"	10YR 3/2	90	10YR 4/2	10	D	M	Silt Loam	
12-18"	10YR 3/1	100					Silty Clay Loam	
18-30"	10YR 3/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-40-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.227904 Long: -90.668726 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-40-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex bebbii*	40	Yes	OBL
2. *Typha latifolia*	15	Yes	OBL
3. *Carex striata*	10	No	OBL
4. *Juncus effusus*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		70 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-40-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/1	100					Muck	
8-24"	7.5YR 4/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-40-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.200947 Long: -90.626163 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: PFO2Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-40-B

Use NWPL2013v1 Accepted Name(s)	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Fragaria virginiana*	20	Yes	FACU
3. *Achillea millefolium*	20	Yes	FACU
4. *Poa pratensis*	10	No	FACU
5. *Festuca arundinacea*	10	No	FACU
6. *Hieracium aurantiacum*	5	No	UPL
7. *Eurybia macrophylla*	5	No	UPL
8. *Lotus corniculatus*	2	No	FACU
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Schedonorus arundinaceus > Festuca arundinac	132	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	122	x 4 =	488
UPL species	10	x 5 =	50
Column Totals:	132 (A)		538 (B)
Prevalence Index = B/A =			4.08

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-40-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	7.5YR 3/3	100					Sandy Loam	
12-20"	7.5YR 3/3	95	7.5YR 4/6	5	C	M	Sandy Clay Loam	
20-24"	7.5YR 3/2	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-41-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.227907 Long: -90.668687 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-41-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Danthonia spicata*	25	Yes	UPL
2. *Pteridium aquilinum*	10	Yes	FACU
3. *Achillea millefolium*	5	No	FACU
4. *Solidago canadensis*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	45	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	25	x 5 =	125
Column Totals:	45 (A)		205 (B)
Prevalence Index = B/A =			4.56

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-41-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy Loam	
5-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-41-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.198154 Long: -90.625993 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-41-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juniperus virginiana*	15	Yes	FACU
2. *Abies balsamea*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Typha latifolia*	15	No	OBL
3. *Eleocharis mamillata*	15	No	OBL
4. *Scirpus atrovirens*	10	No	OBL
5. *Euthamia graminifolia*	10	No	FAC
6. *Glyceria laxa*	5	No	OBL
7. *Spiraea alba*	5	No	FACW
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	5	x 2 =	10
FAC species	20	x 3 =	60
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	125 (A)		215 (B)
Prevalence Index = B/A =			1.72

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-41-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/1	100					Silt Loam	
4-8"	10YR 5/1	100					Sand	
8-12"	10YR 5/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
12-24"	10YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-42-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.225064 Long: -90.664196 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-42-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phleum pratense*	20	Yes	FACU
2. *Tridens flavus*	15	Yes	UPL
3. *Corylus americana*	10	No	FACU
4. *Achillea millefolium*	5	No	FACU
5. *Rubus pubescens*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	15	x 5 =	75
Column Totals:	55 (A)		225 (B)
Prevalence Index = B/A =			4.09

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-42-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 3/2	100					Sandy Loam	
8-24"	7.5YR 4/3	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-42-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.198232 Long: -90.625936 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-42-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	50	Yes	FACU
2. *Poa pratensis*	25	Yes	FACU
3. *Achillea millefolium*	5	No	FACU
4. *Elytrigia repens*	5	No	FACU
5. *Tridens flavus*	5	No	UPL
6. *Trifolium pratense*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Elymus repens > Elytrigia repens.	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	5	x 5 =	25
Column Totals:	95 (A)		385 (B)
Prevalence Index = B/A =			4.05

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-42-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-30"	7.5YR 4/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-43-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.225034 Long: -90.664311 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-43-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	80	Yes	OBL
2. *Onoclea sensibilis*	5	No	FACW
3. *Rubus idaeus*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		105 (B)
Prevalence Index = B/A =			1.17

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-43-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/1	100					Muck	
8-24"	5YR 4/4	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: STH 13 Morse Road to Cayuga Road City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: Wisconsin Department of Transportation State: WI Sampling Point: DP-43-B

Investigator(s): Jameson Loesch Section, Township, Range: SEC 6, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.240429 Long: -90.672923 Datum: NAD83

Soil Map Unit Name: 9013A - Tipler-Manitowish complex, 0 to 3 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-43-B

Use NWPL2013v1 Accepted Name(s)	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	40	Yes	FACU
2. *Festuca arundinacea*	30	Yes	FACU
3. *Poa pratensis*	10	No	FACU
4. *Achillea millefolium*	5	No	FACU
5. *Taraxacum officinale*	5	No	FACU
6. *Ambrosia artemisiifolia*	5	No	FACU
7. *Plantago lanceolata*	5	No	FACU
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
Schedonorus arundinaceus > Festuca arundinac	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-43-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Sandy Loam	
3-20"	7.5YR 3/4	100					Sand	
20-24"	7.5YR 4/3	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-44-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): none

Slope (%): Lat: 46.222701 Long: -90.660109 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ___	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ___	**within a Wetland?**	Yes x No ___
Wetland Hydrology Present?	Yes X	No ___	If yes, optional Wetland Site ID:	___

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): surface

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-44-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Impatiens capensis*	10	No	FACW
3. *Salix bebbiana*	10	No	FACW
4. *Chamaenerion angustifolium*	5	No	FAC
5. *Persicaria sagittata*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	20	x 2 =	40
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		100 (B)
Prevalence Index = B/A =			1.43

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- _____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- _____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-44-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 9"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-45-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 7, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.222744 Long: -90.660065 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-45-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Tridens flavus*	30	Yes	UPL
2. *Poa pratensis*	15	Yes	FACU
3. *Solidago canadensis*	10	No	FACU
4. *Danthonia spicata*	10	No	UPL
5. *Achillea millefolium*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	40	x 5 =	200
Column Totals:	70 (A)		320 (B)
Prevalence Index = B/A =			4.57

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-45-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Loamy Sand	
3-24"	7.5YR 3/4	98	7.5YR 4/6	2	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-46-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.221013 Long: -90.657017 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-46-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	60	Yes	FACU
2. *Pteridium aquilinum*	15	No	FACU
3. *Solidago canadensis*	10	No	FACU
4. *Achillea millefolium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	90 (A)		360 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-46-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 4/3	100					Loam	
16-24"	7.5YR 4/4	100					Silt	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-47-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.221042 Long: -90.656953 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-47-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	20	Yes	OBL
2. *Carex crinita*	15	Yes	OBL
3. *Carex bebbii*	10	No	OBL
4. *Poa palustris*	5	No	FACW
5. *Lythrum salicaria*	5	No	OBL
6. *Eutrochium purpureum*	5	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		75 (B)
Prevalence Index = B/A =			1.25

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-47-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 5/2	80	7.5YR 5/4	20	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-48-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.219370 Long: -90.653896 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO1/4Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-48-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	45	Yes	FACU
2. *Tridens flavus*	20	Yes	UPL
3. *Poa pratensis*	15	No	FACU
4. *Lotus corniculatus*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	20	x 5 =	100
Column Totals:	90 (A)		380 (B)
Prevalence Index = B/A =			4.22

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-48-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 3/2	100					Sandy Loam	
18-24"	5YR 4/4	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-49-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 3% Lat: 46.219332 Long: -90.654002 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO1/4Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-49-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Onoclea sensibilis*	15	Yes	FACW
3. *Persicaria sagittata*	10	No	OBL
4. *Carex striata*	10	No	OBL
5. *Solidago gigantea*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	60	x 2 =	120
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		140 (B)
Prevalence Index = B/A =			1.75

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-49-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 2.5/2	100					Mucky Loam	
3-16"	7.5YR 5/2	75	7.5YR 5/4	25	C	M	Loam	
16-24"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-50-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): none

Slope (%): Lat: 46.215765 Long: -90.647524 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes ____	No X	Depth (inches):	____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-50-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus cyperinus*	40	Yes	OBL
2. *Calamagrostis canadensis*	15	Yes	OBL
3. *Poa palustris*	10	No	FACW
4. *Rubus idaeus*	10	No	FAC
5. *Solidago gigantea*	10	No	FACW
6. *Carex crinita*	10	No	OBL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	20	x 2 =	40
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		135 (B)
Prevalence Index = B/A =			1.42

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-50-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-51-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 8, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.215776 Long: -90.647426 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-51-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Fragaria virginiana*	30	Yes	FACU
2. *Poa pratensis*	20	Yes	FACU
3. *Phleum pratense*	20	Yes	FACU
4. *Achillea millefolium*	10	No	FACU
5. *Eurybia macrophylla*	10	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	10	x 5 =	50
Column Totals:	90 (A)		370 (B)
Prevalence Index = B/A =			4.11

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-51-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/2	100					Sandy Loam	
6-18"	7.5YR 3/4	100					Sandy Loam	
18-24"	7.5YR 4/4	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-52-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.213873 Long: -90.644247 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-52-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Carex crinita*	15	No	OBL
3. *Juncus effusus*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		80 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-52-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 2.5/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-53-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.213869 Long: -90.644204 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? Yes ____ No X Depth (inches): ____

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-53-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Phleum pratense*	10	No	FACU
3. *Fragaria virginiana*	5	No	FACU
4. *Hieracium caespitosum*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	5	x 5 =	25
Column Totals:	80 (A)		325 (B)
Prevalence Index = B/A =			4.06

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-53-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 2.5/2	100					Sandy Loam	
5-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-54-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.212441 Long: -90.641411 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	3"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-54-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	35	Yes	OBL
2. *Scirpus atrovirens*	15	Yes	OBL
3. *Onoclea sensibilis*	2	No	FACW
4. *Poa palustris*	2	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	54	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	4	x 2 =	8
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	54 (A)		58 (B)
Prevalence Index = B/A =			1.07

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-54-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-55-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.212349 Long: -90.641414 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-55-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Abies balsamea*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Danthonia spicata*	35	Yes	UPL
2. *Eurybia macrophylla*	15	Yes	UPL
3. *Poa pratensis*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	10	x 4 =	40
UPL species	50	x 5 =	250
Column Totals:	65 (A)		305 (B)
Prevalence Index = B/A =			4.69

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-55-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/4	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 9"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-56-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.210306 Long: -90.637583 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-56-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Elymus repens*	20	Yes	FACU
3. *Solidago canadensis*	15	Yes	FACU
4. *Achillea millefolium*	10	No	FACU
5. *Pteridium aquilinum*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	75 (A)		300 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-56-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5yr 3/2	100					Loam	
7-24"	7.5yr 4/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-57-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 17, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.210277 Long: -90.637581 Datum: NAD83

Soil Map Unit Name: 9051A - Minocqua, Cable, and Pleine soils, 0 to 2 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-57-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus cyperinus*	45	Yes	OBL
2. *Calamagrostis canadensis*	15	No	OBL
3. *Onoclea sensibilis*	10	No	FACW
4. *Phalaris arundinacea*	10	No	FACW
5. *Carex bebbii*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		105 (B)
Prevalence Index = B/A =			1.24

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-57-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 2.5/1	100					Muck	
6-24"	7.5YR 4/2	98	7.5YR 5/6	2	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-58-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.209453 Long: -90.636059 Datum: NAD83

Soil Map Unit Name: 9012C - Sayner-Lindquist complex, 6 to 15 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-58-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Carex bebbii*	40	Yes	OBL
2. *Scirpus cyperinus*	20	Yes	OBL
3. *Tridens flavus*	10	No	UPL
4. *Poa palustris*	5	No	FACW
5. *Poa pratensis*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	10	x 5 =	50
Column Totals:	80 (A)		140 (B)
Prevalence Index = B/A =			1.75

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-58-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-24"	7.5YR 4/2	95	7.5YR 6/8	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-59-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.209407 Long: -90.636082 Datum: NAD83

Soil Map Unit Name: 9012C - Sayner-Lindquist complex, 6 to 15 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-59-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Danthonia spicata*	20	Yes	UPL
3. *Fragaria virginiana*	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	20	x 5 =	100
Column Totals:	80 (A)		340 (B)
Prevalence Index = B/A =			4.25

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-59-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Clay Loam	
6-24"	7.5YR 4/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-60-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.208038 Long: -90.633554 Datum: NAD83

Soil Map Unit Name: 9155A - Haplosaprists, Peats and Mucks, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-60-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	50	Yes	FACU
2. *Poa pratensis*	15	No	FACU
3. *Fragaria virginiana*	15	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	80 (A)		320 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-60-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	7.5YR 3/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-61-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.207984 Long: -90.633544 Datum: NAD83

Soil Map Unit Name: 9155A - Haplosaprists, Peats and Mucks, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	2"
Water Table Present?	Yes X	No ____	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-61-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	55	Yes	OBL
2. *Typha latifolia*	15	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		70 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-61-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	7.5YR 2.5/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-62-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.203402 Long: -90.626901 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes x No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-62-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	80	Yes	FACU
2. *Hieracium caespitosum*	5	No	UPL
3. *Rubus alumnus*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	5	x 5 =	25
Column Totals:	90 (A)		365 (B)
Prevalence Index = B/A =			4.06

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-62-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	10YR 2/1	100					Loam	
20-24"	10YR 5/1	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M16: STH 13 Morse to Cayuga Rd City/County: Glidden/Ashland Sampling Date: 7/26/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-63-A

Investigator(s): Zach Waechter Section, Township, Range: SEC 16, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.203429 Long: -90.626934 Datum: NAD83

Soil Map Unit Name: 9113B - Padus-Karlin complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes x	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	3"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-63-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Typha latifolia*	20	Yes	OBL
2. *Calamagrostis canadensis*	10	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	30	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	30 (A)		30 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-63-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 2.5/1	100					Muck	
16-24"	7.5YR 2.5/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

STH 13 Morse Road to Cayuga Road

APPENDIX C

WISDOT WETLAND CLASSIFICATION SYSTEM

This page intentionally left blank.

Table 1C. Wetland Type Classification for the Wisconsin Wetland Mitigation Bank.

Cir39 Classification	Wetland Type Bank Site *	Examples of Vegetational Community Types
1A Seasonally flooded basin or flat	Riparian wetland (RPF) (wooded)	Floodplain Forest (includes Bottomland Hardwood forests **), Riparian Shrub Carr and Alder Thickets
1B Seasonally flooded basin or flat	Riparian wetland (RPE) (emergent)	Riparian Wet and Sedge Meadows, Bars and Mudflats
2 Inland fresh meadow	Wet Meadow (M)	Wet Meadow, Wet/Wet Mesic Prairie, Sedge Meadow, Vernal pools, (also includes Fens **)
3 Inland shallow fresh marsh	Shallow Marsh (SM)	Emergent Aquatic
4 Inland deep fresh marsh	Deep Marsh (DM)	Emergent and Submergent Aquatic
5 Inland open fresh water	Aquatic Bed (AB)	Submergent Aquatic, Aquatic Bed (depth less than 3 Meters)
6 Shrub swamp	Shrub Scrub (SS)	Shrub Carr, Alder Thicket
7 Wooded swamp	Wooded Swamp (WS) (Forested Wetland)	Wet/Wet-Mesic Deciduous Forests White Cedar Swamps
8 Bog	Bog (Bog)	Open Bog, Forested Bog

* Wetland types used for purposes of this bank system.
These should be refered to by name or by acronym (e.g. RPF, SM, AB, etc.)

** Red flag wetlands

STH 13 Morse Road to Cayuga Road

APPENDIX D

SUMMARY OF DELINEATED WETLANDS

This page intentionally left blank.

Wetland ID	Total Wetland Acres W/in Project Area	Wetland Community Type	Total Wetland Community Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-01-A	0.02	Wet Meadow	0.02	DP-02-A	A2, A3, D2, D5	S1	The wet meadow community is dominated by *Carex lacustris*
W-01-B	0.03	Wet Meadow	0.03	DP-01-B	A2, A3, D2, D4, D5	A3	The wet meadow community is dominated by *Abies balsamea, Alnus incana,* and *Carex stricta*
W-02-A	0.23	Wooded Swamp	0.23	DP-04-A	A2, A3, D2, D5	S1	The wooded swamp community is dominated by *Salix bebbiana, Calamagrostis canadensis,* and *Equisetum arvense.*
W-02-B	0.15	Wooded Swamp	0.13	DP-05-B, DP-06-B	A2, A3, D2	A12	The wooded swamp community is dominated by *Picea glauca, Alnus incana, Pteridium*
		Shrub Scrub	0.02	DP-03-B	A2, A3, D3, D5	F6	The shrub scrub community is dominated by *Abies balsamea, Ulmus americana, Alnus*
W-03-A	0.01	Wet Meadow	0.01	DP-08-A	A2, A3, D2, D5	S1	The wet meadow community is dominated by *Phalaris arundinacea*
W-03-B	0.26	Wet Meadow	0.15	DP-08-B	D2, D5	S5	The wet meadow community is dominated by *Symphyotrichum tradescantii, Spiraea alba, Phalaris arundinacea,* and *Agrostis gigantea*
		Shrub Scrub	0.10	DP-09-B	A1, A2, A3, D2, D5	A2, A3, A12	The shrub scrub community is dominated by *Picea glauca, Abies balsamea, Salix interior,*
		Shallow Marsh	0.02	DP-10-B	A2, A3, D2, D4, D5	A2	The shallow marsh community is dominated by *Typha latifolia*
W-04-A	0.35	Wet Meadow	0.35	DP-09-A	D2, D5	S5	The wet meadow community is dominated by *Carex utriculata* and *Carex crinita*

Wetland ID	Total Wetland Acres W/in Project Area	Wetland Community Type	Total Wetland Community Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-04-B	0.06	Wet Meadow	0.06	DP-11-B	A2, A3, D2, D5	A11	The wet meadow community is dominated by *Abies balsamea, Populus tremuloides, Alnus incana, Spiraea alba, Impatiens capensis* , and *Calamagrostis canadensis*
W-05-A	0.08	Shrub Scrub	0.08	DP-13-A	A2, A3, D2, D5	A2	The shrub scrub community is dominated by *Alnus incana, Acer rubrum, Typha latifolia,* and *Calamagrostis canadensis*
W-05-B	0.23	Wet Meadow	0.23	DP-13-B, DP-15-B	A2, A3, D2, D5	A11, F3	The wet meadow community is dominated by *Abies balsamea, Larix laricina, Prunus virginiana, Spiraea alba, Phalaris arundinacea, Euthamia graminifolia, Ranunculus acris,* and *Cornus canadensis*
W-06-A	0.13	Wet Meadow	0.13	DP-16-A	D2, D5	A11, F3	The wet meadow community is dominated by *Phalaris arundinacea*
W-06-B	0.35	Wet Meadow	0.35	DP-17-B	A1, A2, A3, B9, D2, D5	A3	The wet meadow community is dominated by *Salix bebbiana, Spiraea alba,* and *Scirpus atrovirens*
W-07-A	1.03	Wet Meadow	1.03	DP-19-A	D2, D5	A1	The wet meadow community is dominated by *Calamagrostis canadensis*
W-07-B	1.99	Wet Meadow	1.98	DP-22-B	A1, A2, A3, B9, D2, D5	A2	The wet meadow community is dominated by *Salix interior* and *Carex lacustris*
		Shrub Scrub	0.01	DP-21-B	A1, A2, A3, B9, D2, D5	A2	The shrub scrub community is dominated by *Alnus incana, Carex lacustris,* and *Impatiens capensis*
W-08-A	0.17	Wet Meadow	0.17	DP-22-A	D2, D5	A2, S3	The wet meadow community is dominated by *Phalaris arundinacea*

Wetland ID	Total Wetland Acres W/in Project Area	Wetland Community Type	Total Wetland Community Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-08-B	0.52	Wet Meadow	0.52	DP-24-B	A2, A3, B9, D2, D5	F1	The wet meadow community is dominated by *Cornus racemosa, Alnus incana, Glyceria*
W-09-A	0.16	Wet Meadow	0.16	DP-24-A	C1, D2, D5	F1	The wet meadow community is dominated by *Glyceria canadensis* and *Calamagrostis canadensis*
W-09-B	0.34	Wet Meadow	0.31	DP-27-B	A2, A3, D2, D5	A11, F3	The wet meadow community is dominated by *Spiraea alba, Ribes oxyacanthoides, Onoclea sensibilis,* and *Scirpus atrovirens*
		Shallow Marsh	0.03	DP-26-B	A1, A2, A3, B9, D2, D5	A2, A11, F1	The shallow marsh community is dominated by *Typha latifolia*
W-10-A	0.03	Shallow Marsh	0.03	DP-26-A	A1, A2, A3, D2, D5	A3	The shallow marsh community is dominated by *Carex lacustris* and *Scirpus atrovirens*
W-10-B	0.39	Wet Meadow	0.39	DP-31-B	A1, A2, A3, B9, D2, D5	F6	The wet meadow community is dominated by *Juncus canadensis* and *Calamagrostis canadensis*
W-11-A	0.09	Shallow Marsh	0.09	DP-28-A	A1, A2, A3, D2, D5	A2	The shallow marsh community is dominated by *Typha latifolia* and *Juncus effusus*
W-11-B	0.02	Wet Meadow	0.02	DP-33-B	A1, A2, A3, D2, D5	F6	The wet meadow community is dominated by *Phalaris arundinacea, Typha latifolia, Carex crinita, Calamagrostis canadensis,* and *Juncus effusus*
W-12-A	0.07	Wet Meadow	0.07	DP-29-A	A2, A3, D2, D5	A2	The wet meadow community is dominated by *Comarum palustre* and *Solidago gigantea*
W-12-B	0.12	Wet Meadow	0.12	DP-34-B	A1, A2, A3, D2, D5	F6	The wet meadow community is dominated by *Juncus effusus, Solidago gigantea, Scirpus*

Wetland ID	Total Wetland Acres W/in Project Area	Wetland Community Type	Total Wetland Community Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-13-A	0.05	Wet Meadow	0.05	DP-32-A	A1, A2,A3 D2, D5	S5	The wet meadow community is dominated by *Calamagrostis canadensis, Scirpus atrovirens* and *Juncus effusus*
W-13-B	0.08	Wet Meadow	0.00	DP-38-B	A1, A2, A3, D2, D5	F6	The wet meadow community is dominated by *Spiraea alba, Alnus incana, Calamagrostis canadensis* , and *Carex stricta*
		Wooded Swamp	0.08	DP-36-B	A2, A3, D2, D5	F6	The wooded swamp community is dominated by *Abies balsamea, Alnus incana, Glyceria laxa* , and *Equisetum arvense*
W-14-A	0.23	Wet Meadow	0.23	DP-36-A	A2, A3, D2, D5	F3	The wet meadow community is dominated by *Carex crinita*
W-14-B	0.27	Wet Meadow	0.27	DP-39-B	A1, A2, A3, B9, D2, D5	F1	The wet meadow community is dominated by *Alnus incana, Salix interior, Scirpus atrovirens, Spiraea alba,* and *Calamagrostis canadensis*
W-15-A	0.10	Wet Meadow	0.10	DP-39-A	A3, D2, D5	F3	The wet meadow community is dominated by *Scirpus atrovirens* and *Juncus effusus*
W-15-B	0.18	Wet Meadow	0.18	DP-41-B	A2, A3, D2, D5	A11	The wet meadow community is dominated by *Juniperus virginiana, Abies balsamea,* and *Calamagrostis canadensis*
W-16-A	0.10	Shallow Marsh	0.10	DP-40-A	A1, A2, A3, D2, D5	A2	The shallow marsh community is dominated by *Carex bebbii* and *Typha latifolia*
W-17-A	0.15	Wet Meadow	0.15	DP-43-A	A2, A3, D2, D5	A2	The wet meadow community is dominated by *Calamagrostis canadensis*

Wetland ID	Total Wetland Acres W/in Project Area	Wetland Community Type	Total Wetland Community Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-18-A	0.13	Riparian Emergent Wetland	0.13	DP-44-A	A3, D2, D5	F3	The riparian emergent wetland community is dominated by *Calamagrostis canadensis*
W-19-A	0.22	Wet Meadow	0.22	DP-47-A	A1, A2, A3, D2, D5	F3	The wet meadow community is dominated by *Typha latifolia* and *Carex crinita*
W-20-A	0.36	Wet Meadow	0.36	DP-49-A	A3, D2, D5	A11, F1, F3	The wet meadow community is dominated by *Phalaris arundinacea* and *Onoclea sensibilis*
W-21-A	0.14	Wet Meadow	0.14	DP-50-A	A3, D2, D5	F3	The wet meadow community is dominated by *Scirpus cyperinus* and *Calamagrostis canadensis*
W-22-A	0.02	Wet Meadow	0.02	DP-52-A	A1, A2, A3, D2, D5	A1	The wet meadow community is dominated by *Calamagrostis canadensis*
W-23-A	0.47	Wet Meadow	0.47	DP-54-A	A2, A3, D2, D5	F3	The wet meadow community is dominated by *Calamagrostis canadensis* and *Scirpus atrovirens*
W-24-A	0.07	Wet Meadow	0.07	DP-57-A	A1, A2, A3, D2, D5	A2, A11, F3	The wet meadow community is dominated by *Scirpus cyperinus*
W-25-A	0.69	Wet Meadow	0.24	DP-58-A	A2, A3, D2, D5	A11	The wet meadow community is dominated by *Carex bebbii* and *Scirpus cyperinus*
		Shallow Marsh	0.45	DP-61-A	A1, A2, A3, D2, D5	A1	The shallow marsh community is dominated by *Calamagrostis canadensis* and *Typha latifolia*
W-26-A	0.17	Shallow Marsh	0.17	DP-63-A	A1, A2, A3, D2, D5	A1, A2	The shallow marsh community is dominated by *Typha latifolia* and *Calamagrostis canadensis*

STH 13 Morse Road to Cayuga Road

FIGURE 1

Project Location

This page intentionally left blank.



N W E S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,250 2,500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/17/2016 Date Revised: 8/17/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Project Location.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

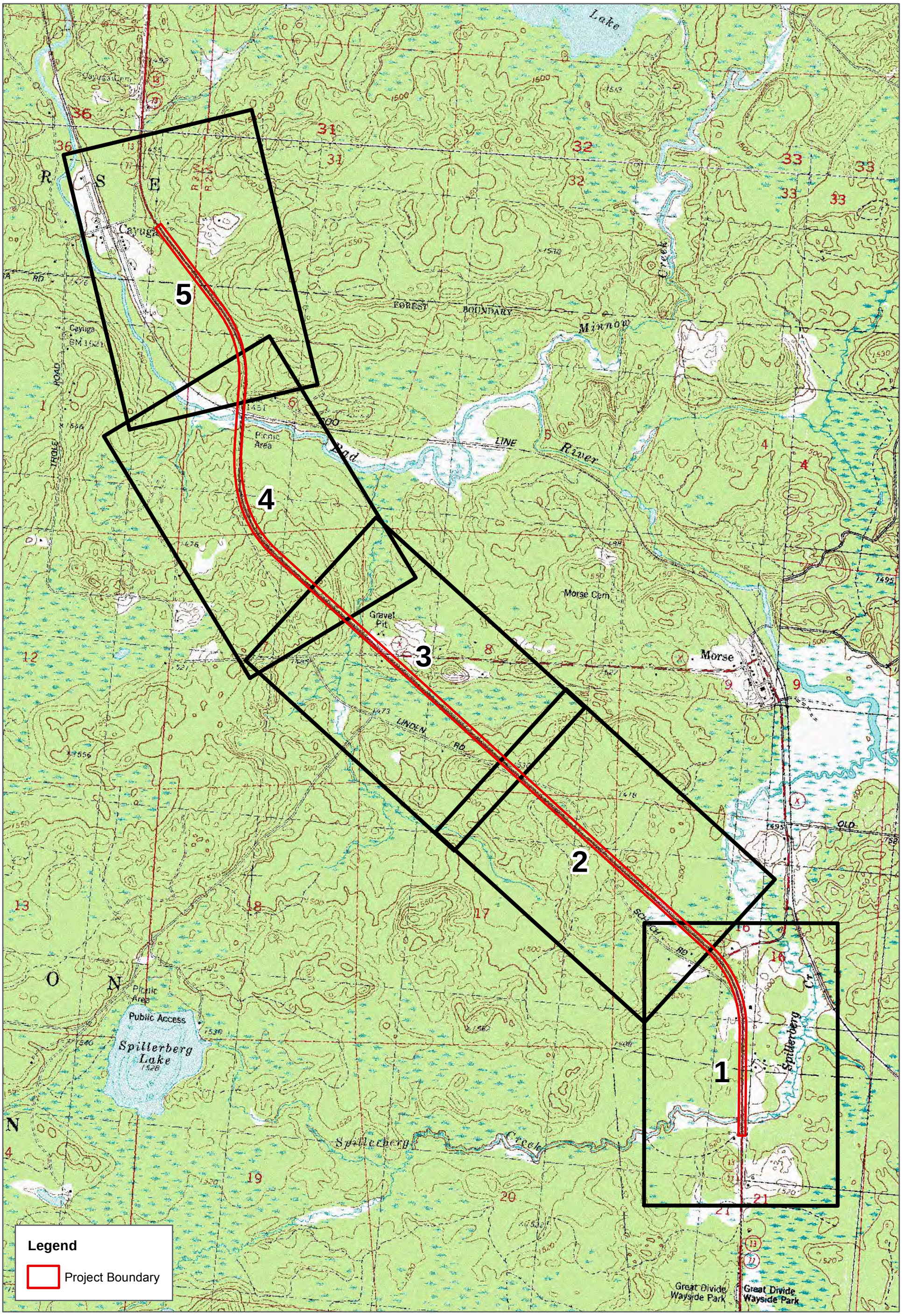
GIS Analyst: Alex Cohen

STH 13 Morse Road to Cayuga Road

FIGURE 2

Topographic Map

This page intentionally left blank.



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Topographic Map

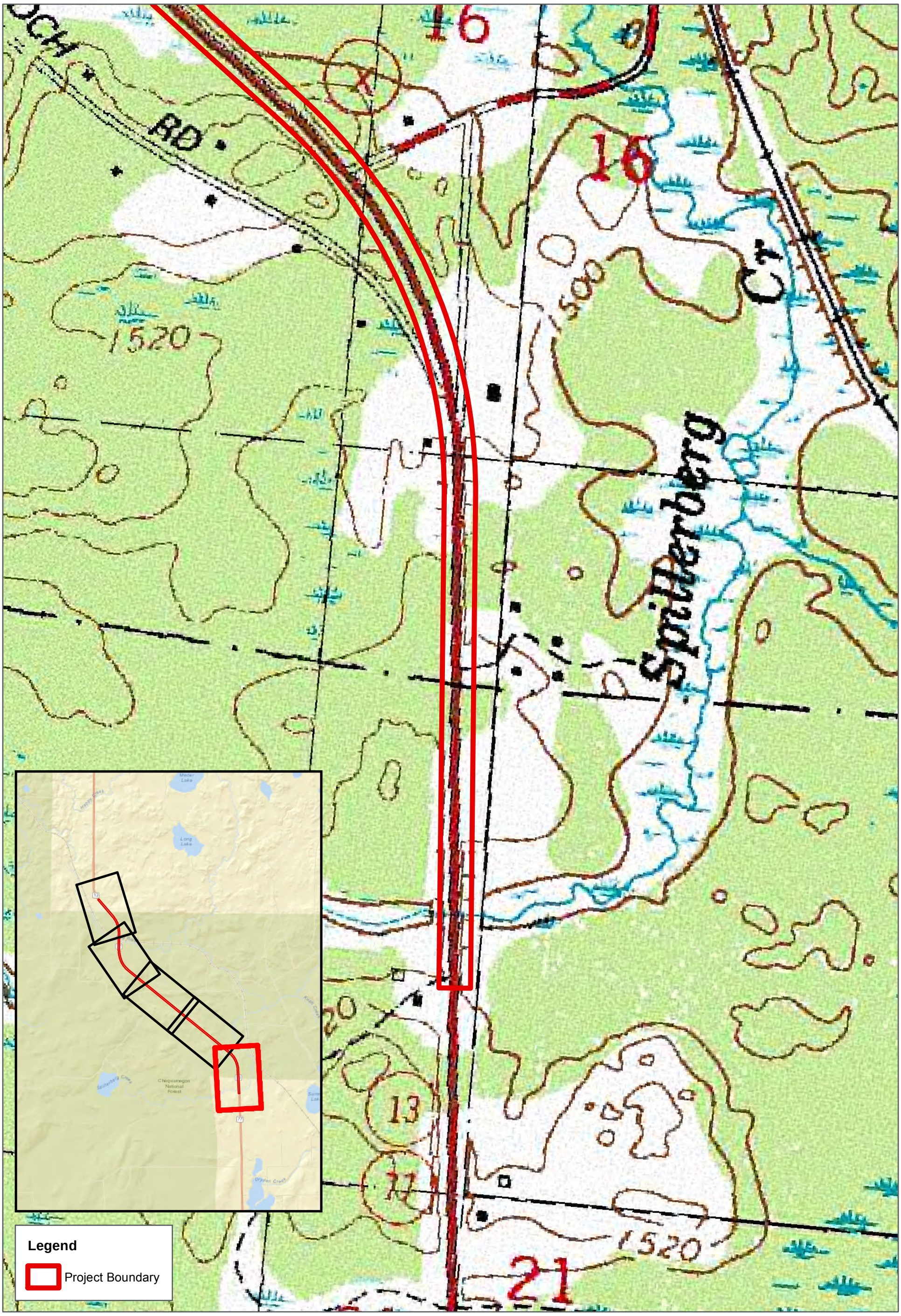
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,250 2,500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Topographic Map - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Topographic Map

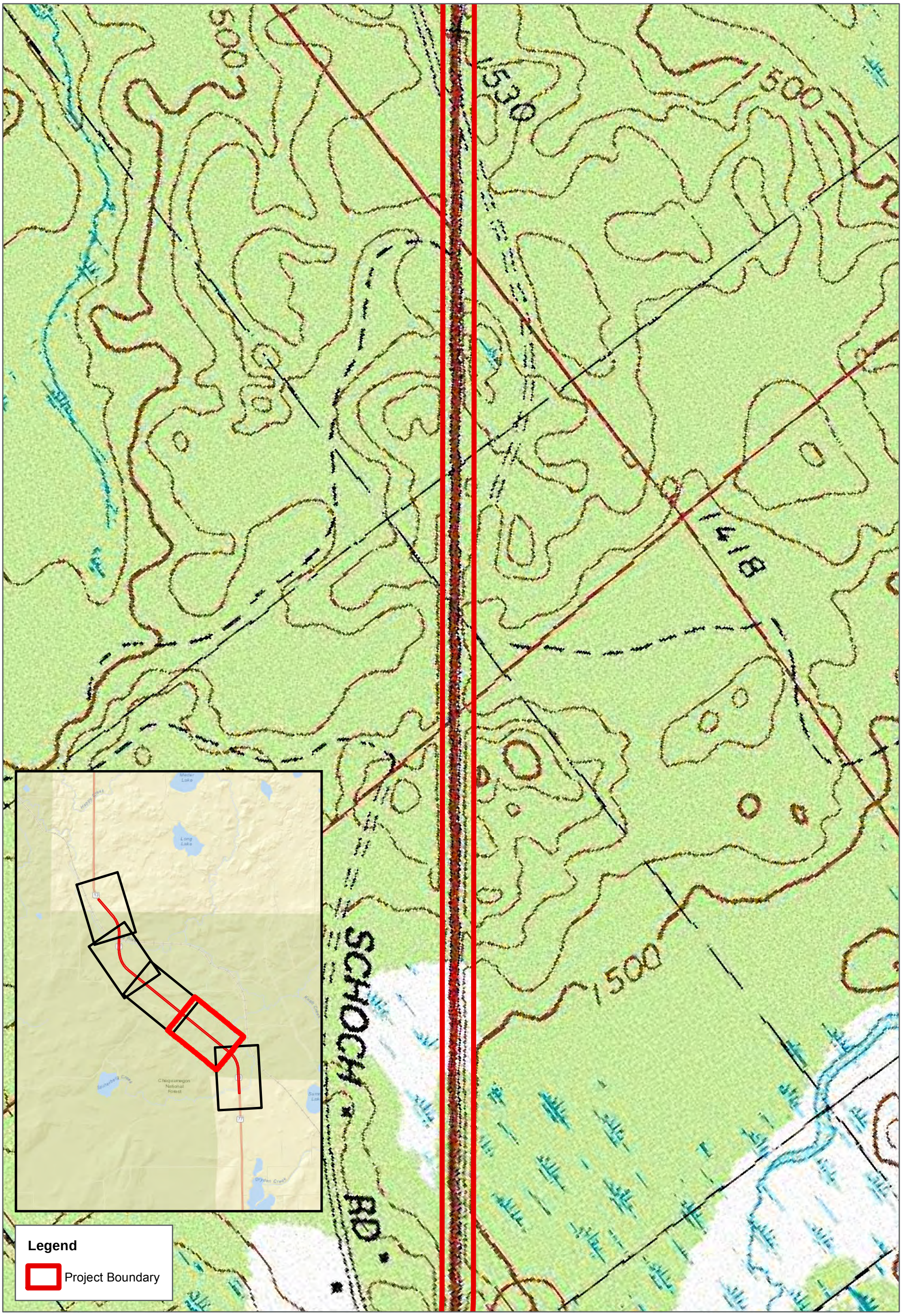
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Topographic Map.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Topographic Map

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

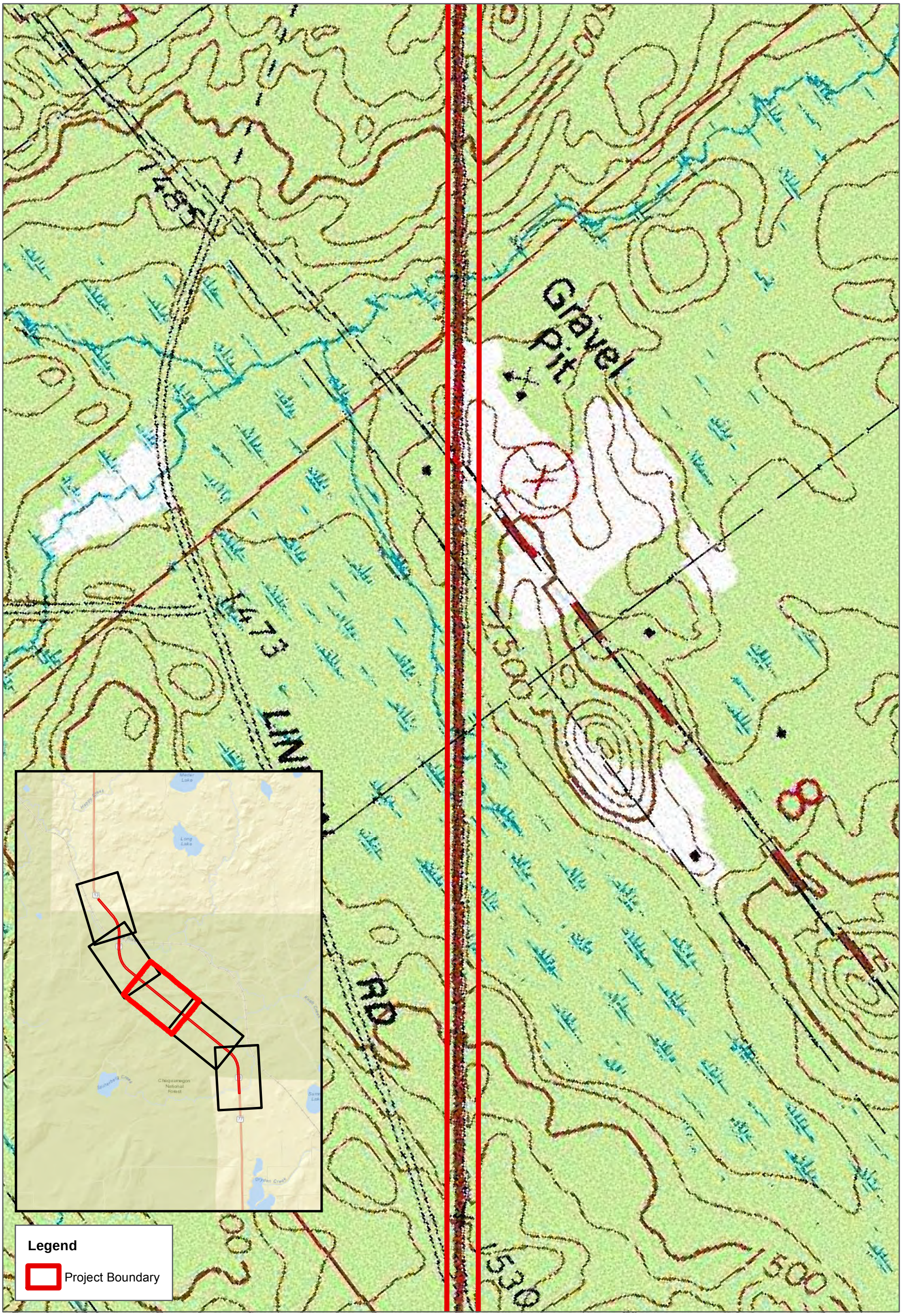
0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Project No. J157001M16

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Topographic Map.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Topographic Map

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

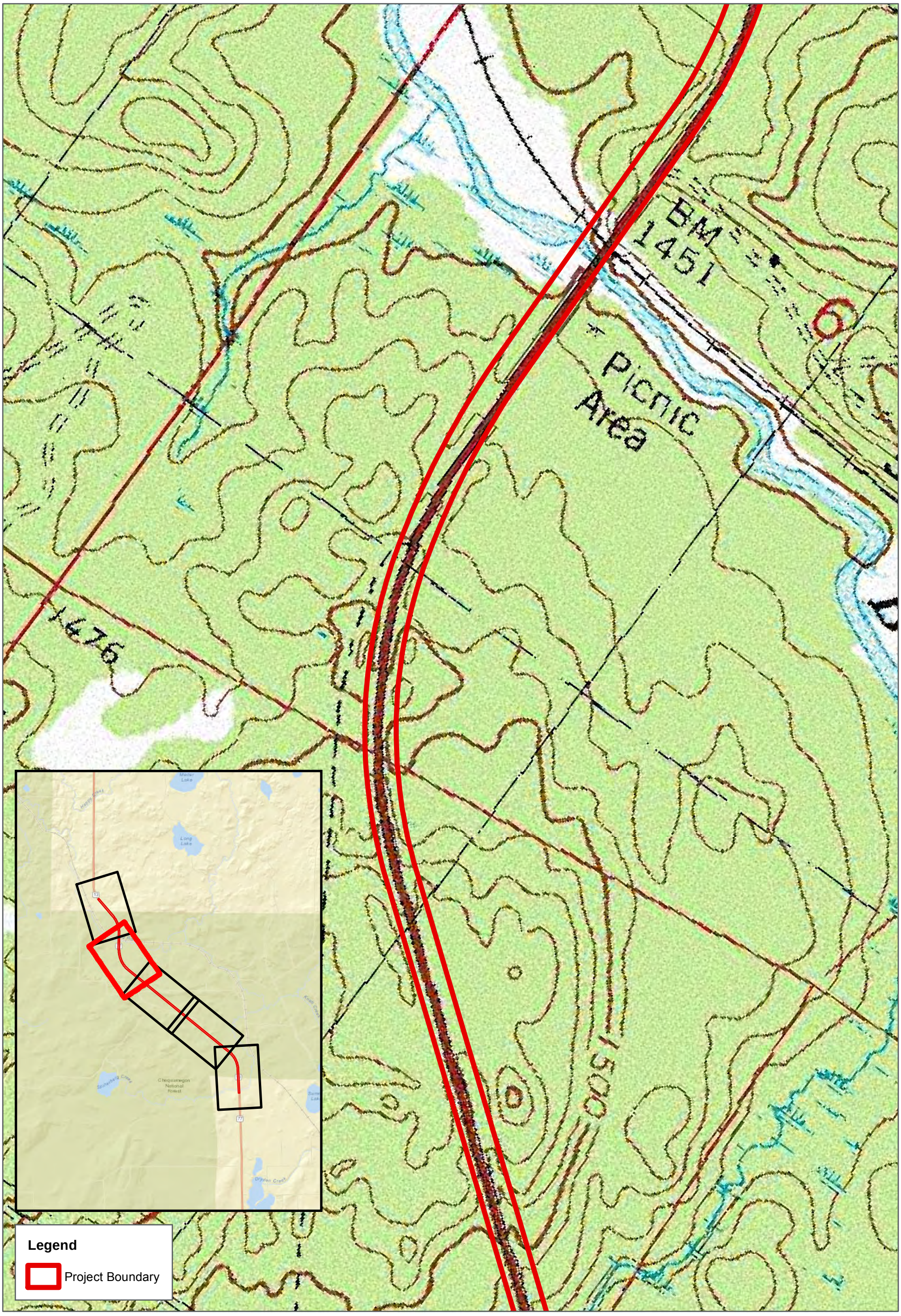
0 250 500 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Topographic Map.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Topographic Map

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

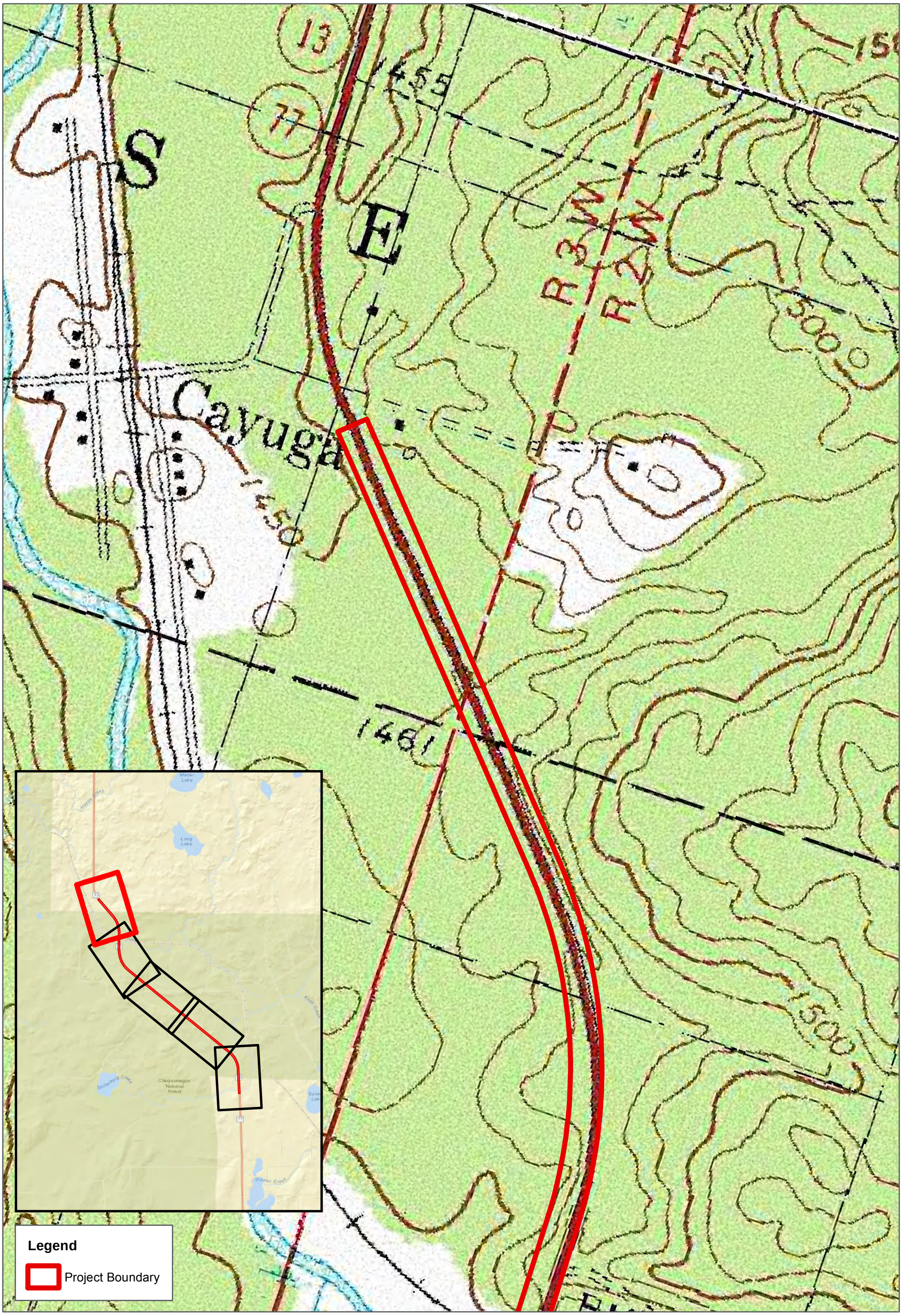
0 250 500 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Topographic Map.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W
E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Topographic Map

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Topographic Map.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

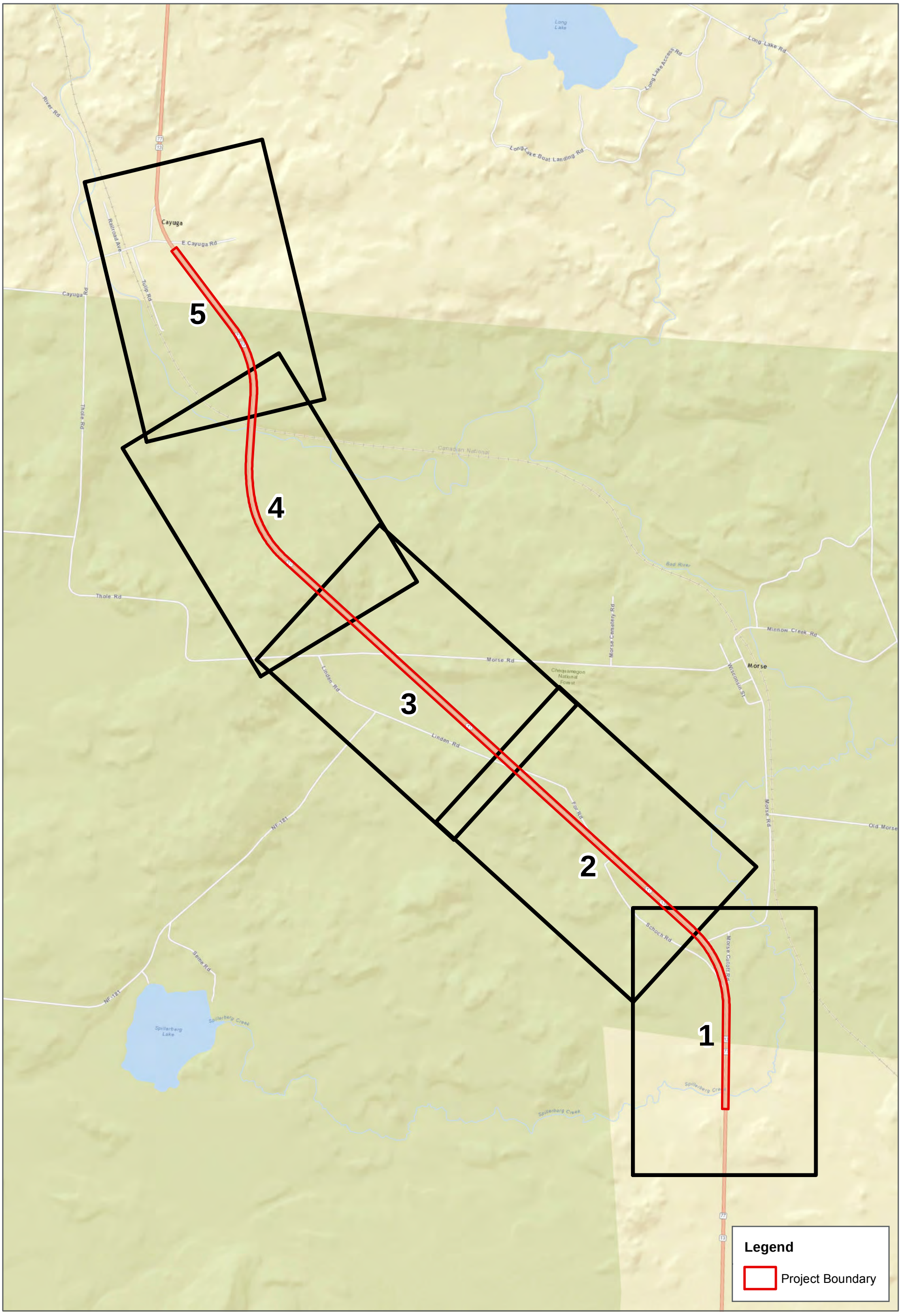
GIS Analyst: Alex Cohen

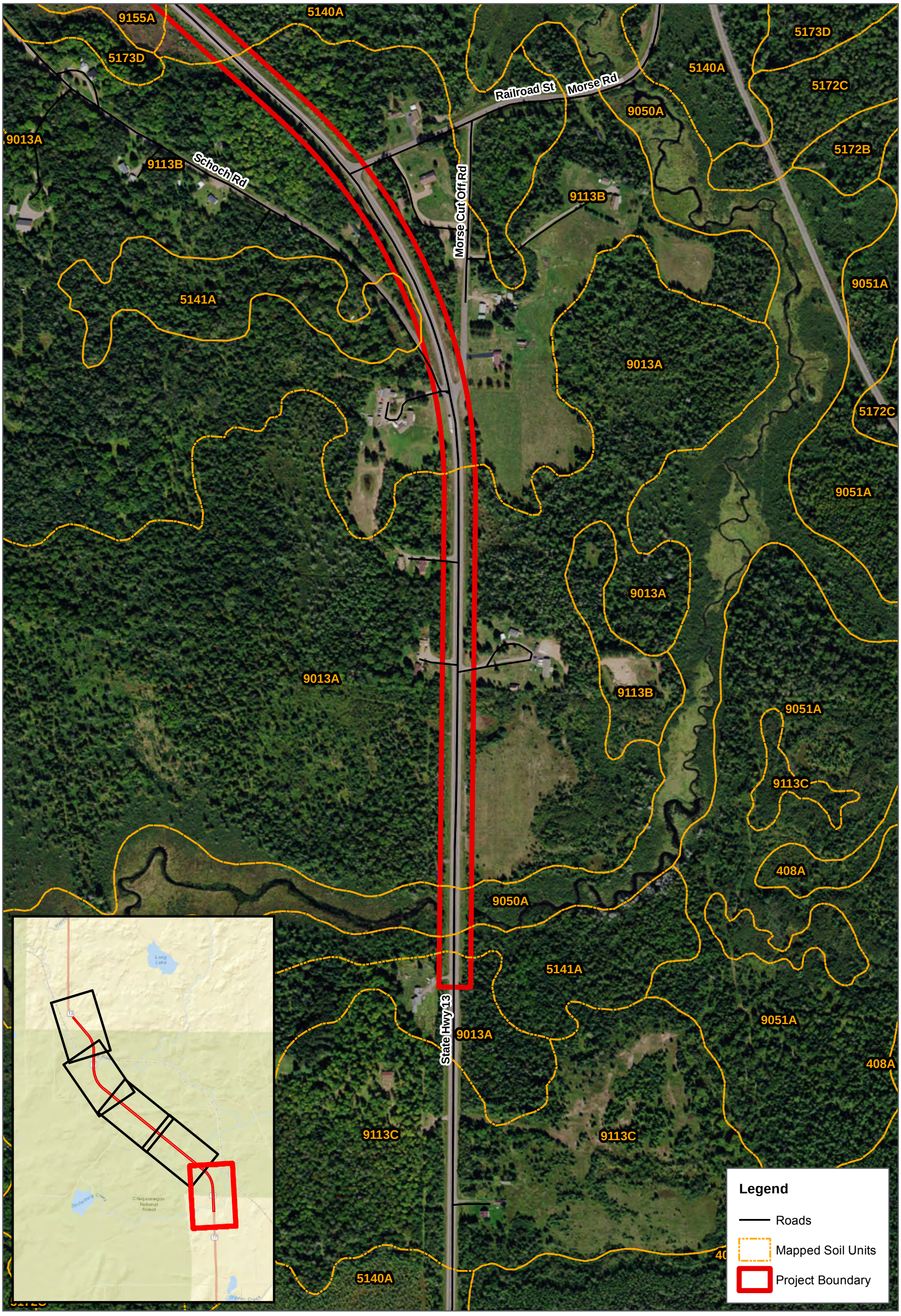
STH 13 Morse Road to Cayuga Road

FIGURE 3

Mapped Soil Units

This page intentionally left blank.


Long Lake
Long Lake Rd
Long Lake Access Rd
Long Lake Boat Landing Rd
River Rd
Cayuga
E Cayuga Rd
Railroad Ave
Tulip Rd
Cayuga Rd
Thiele Rd
5
4
3
2
1
Canadian National
Bad River
Morse Cemetery Rd
Minnow Creek Rd
Morse
Morse Rd
Wisconsin St
Chequamegon National Forest
Thole Rd
Linden Rd
For Rd
Old Morse
NF-181
Schoch Rd
Morse Cutoff Rd
Serne Rd
Spillerberg Lake
Spillerberg Creek
77
13
Legend
Project Boundary
N
W
E
S
Project No. J157001M16
This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.
Mapped Soil Units
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin
0 1,250 2,500 Feet
Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com
Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Mapped Soil Units - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Mapped Soil Units

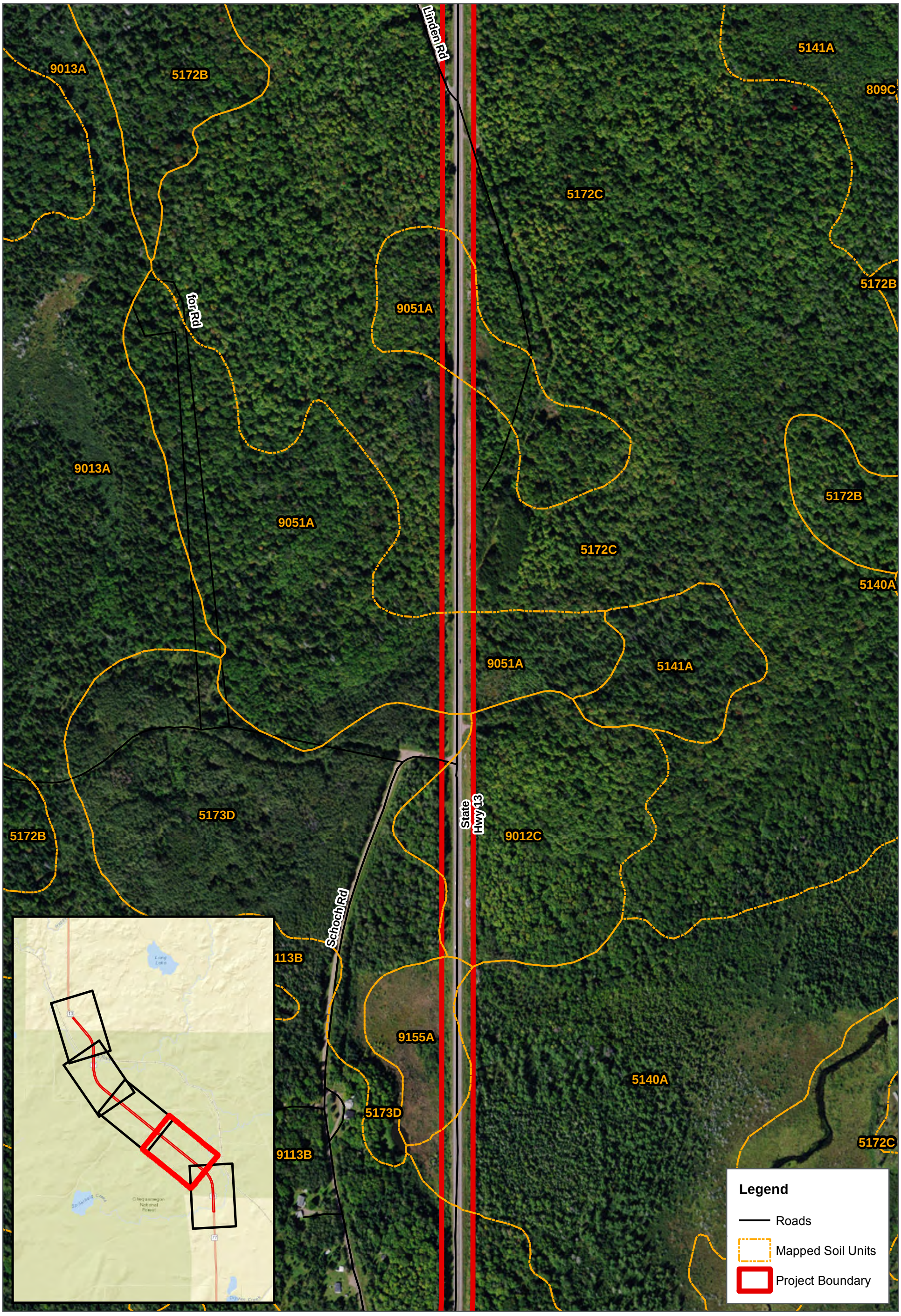
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Mapped Soil Units.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Mapped Soil Units

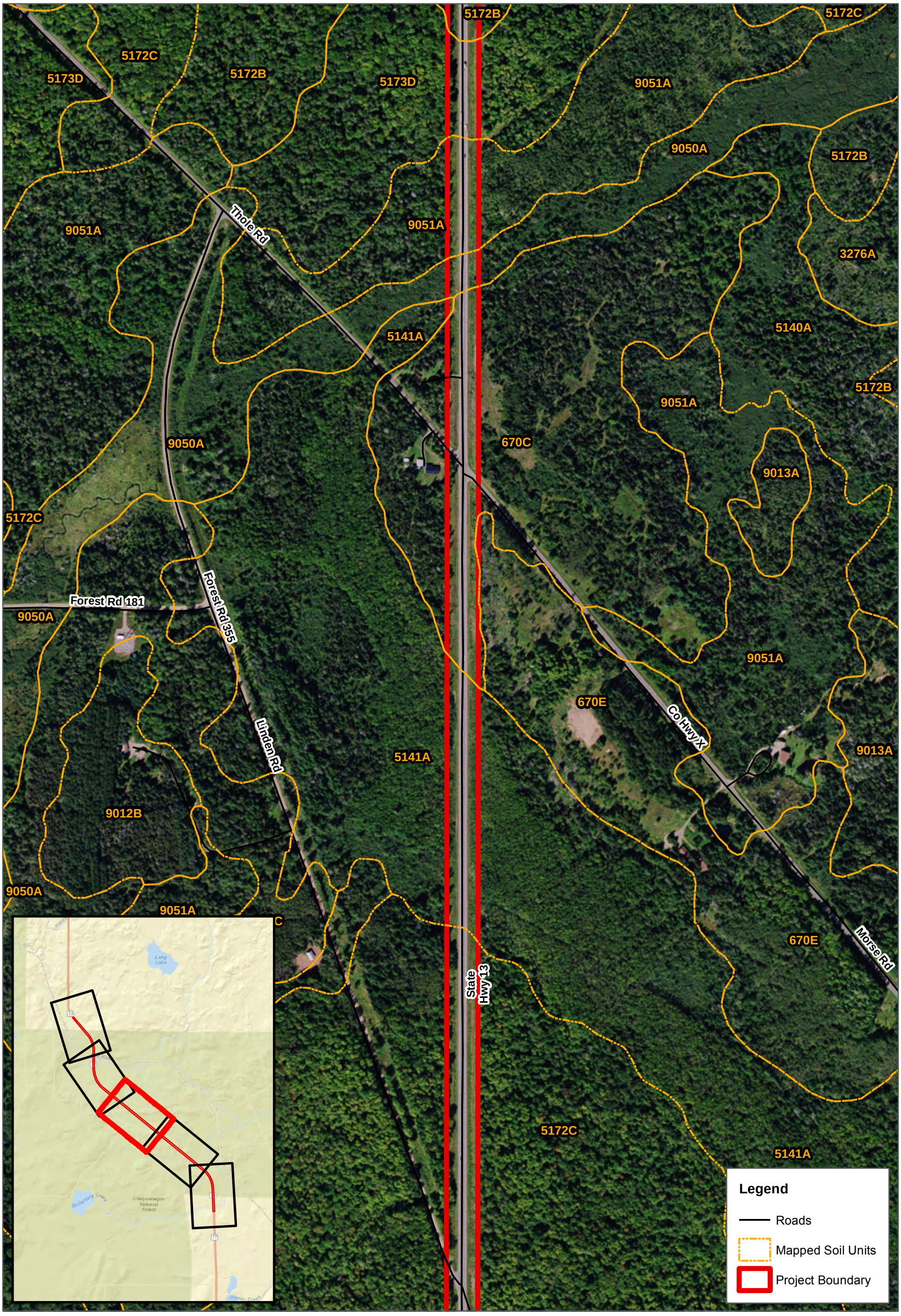
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Mapped Soil Units.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Mapped Soil Units

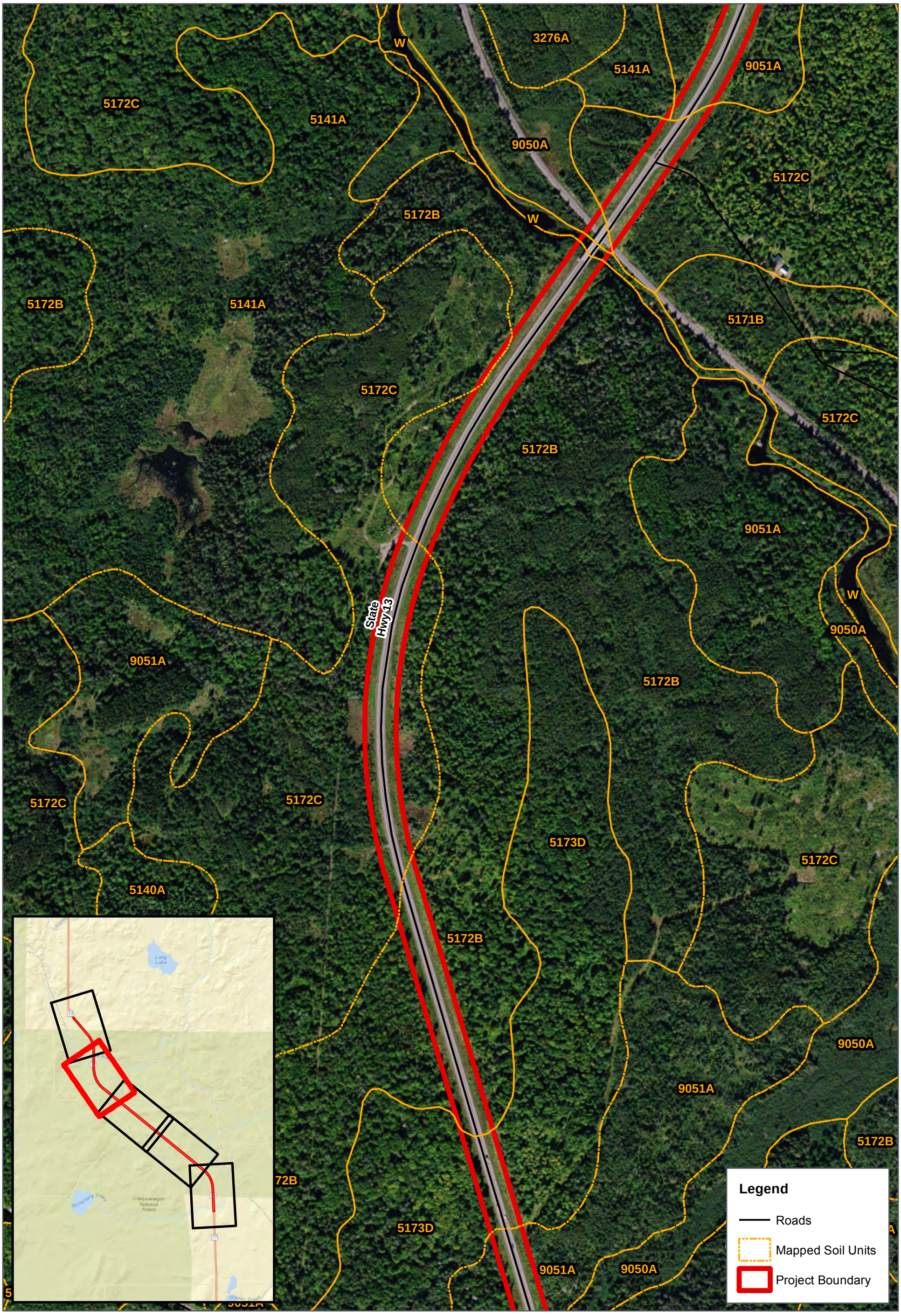
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Mapped Soil Units.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Mapped Soil Units

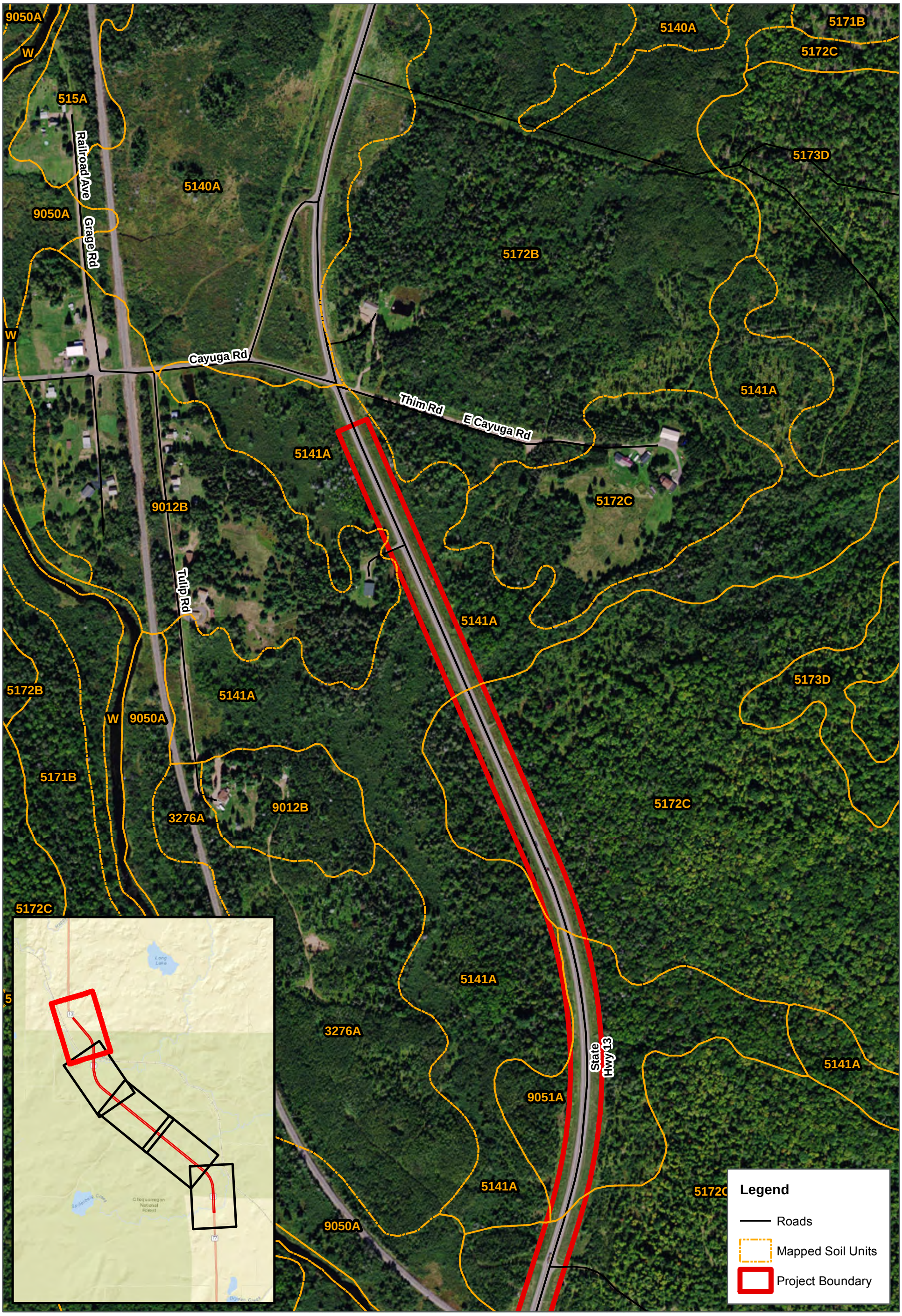
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Mapped Soil Units.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Mapped Soil Units

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Mapped Soil Units.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

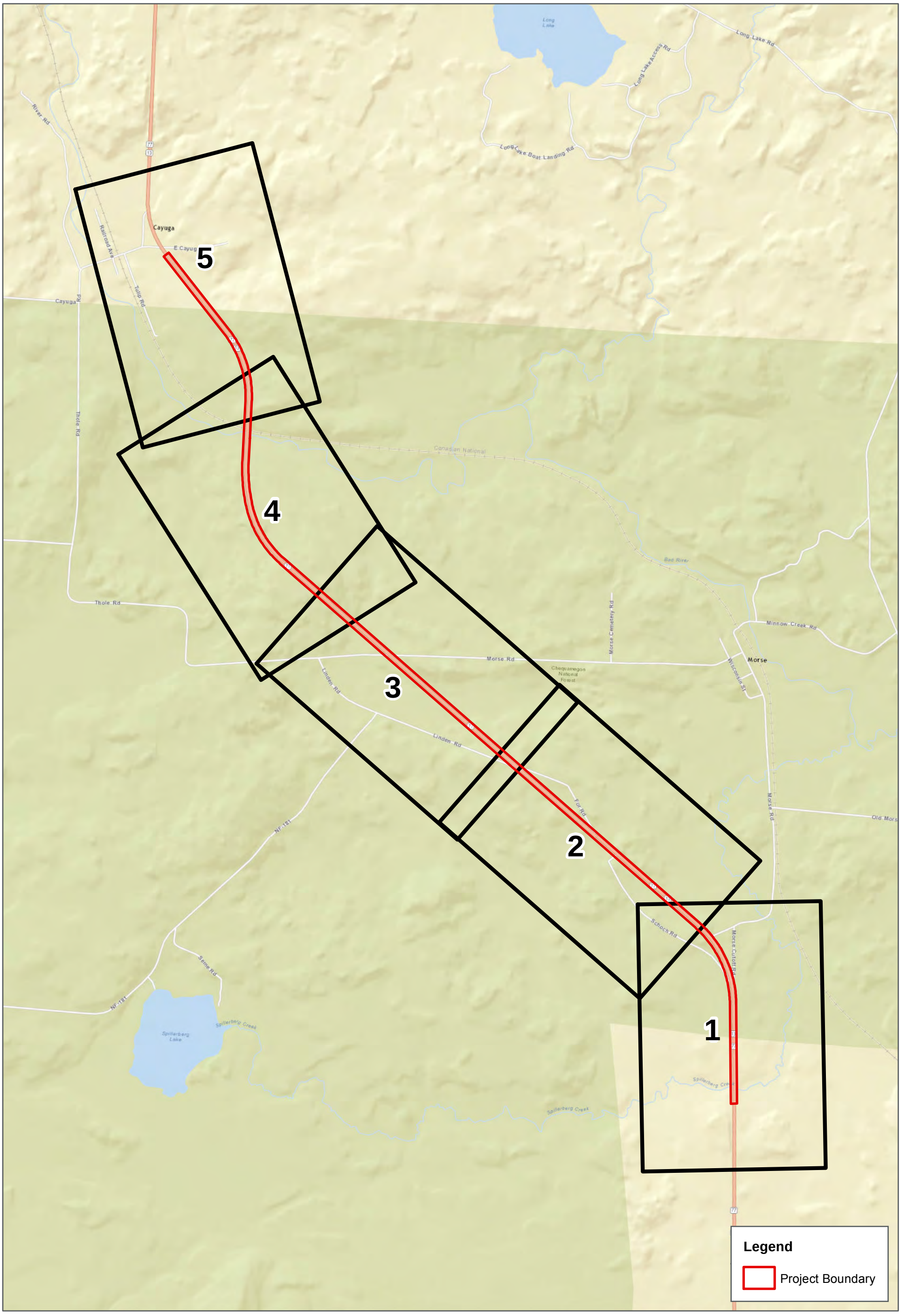
GIS Analyst: Alex Cohen

STH 13 Morse Road to Cayuga Road

FIGURE 4

Wisconsin Wetland Inventory

This page intentionally left blank.



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Wisconsin Wetland Inventory

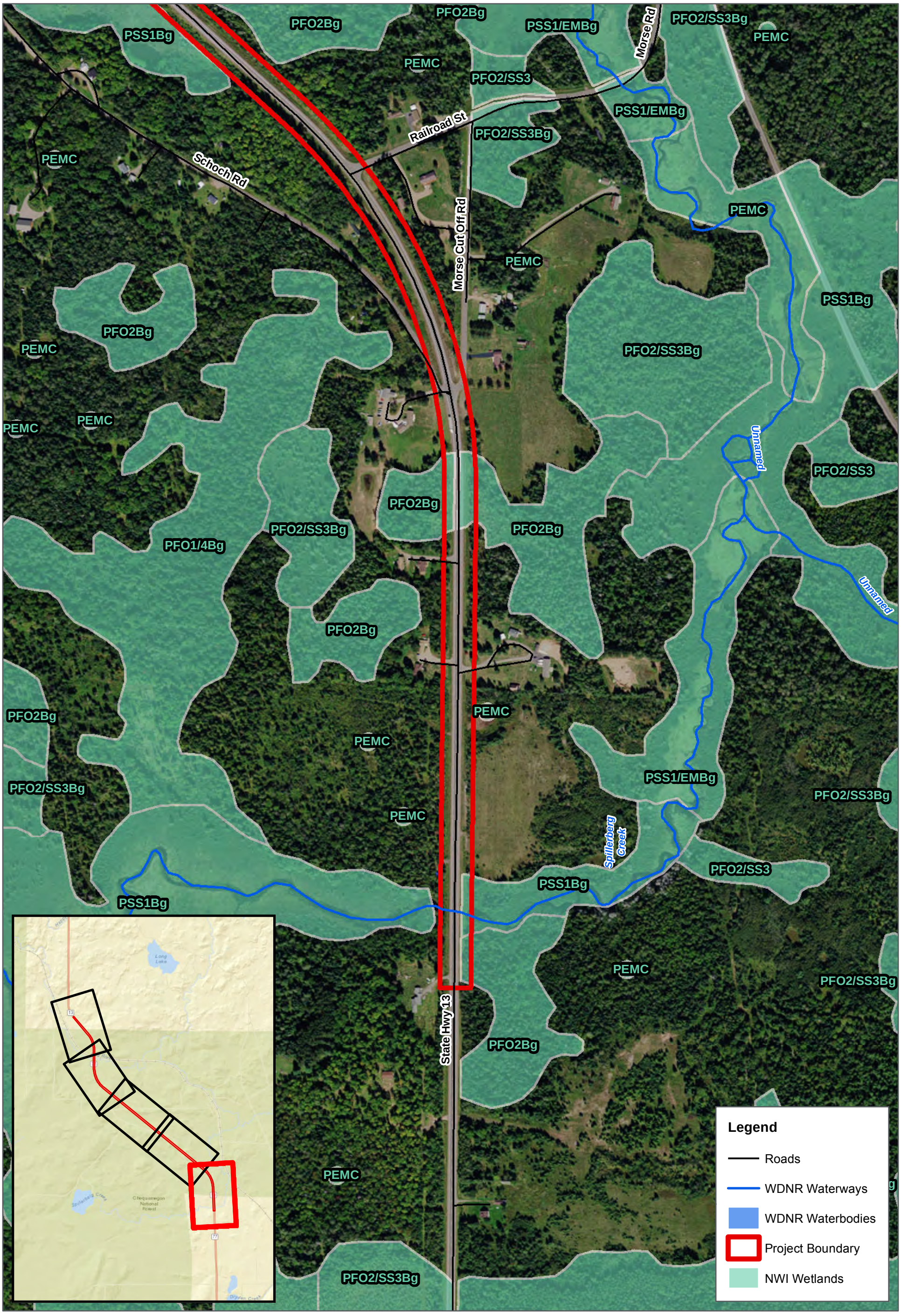
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,250 2,500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Wisconsin Wetland Inventory - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Wisconsin Wetland Inventory

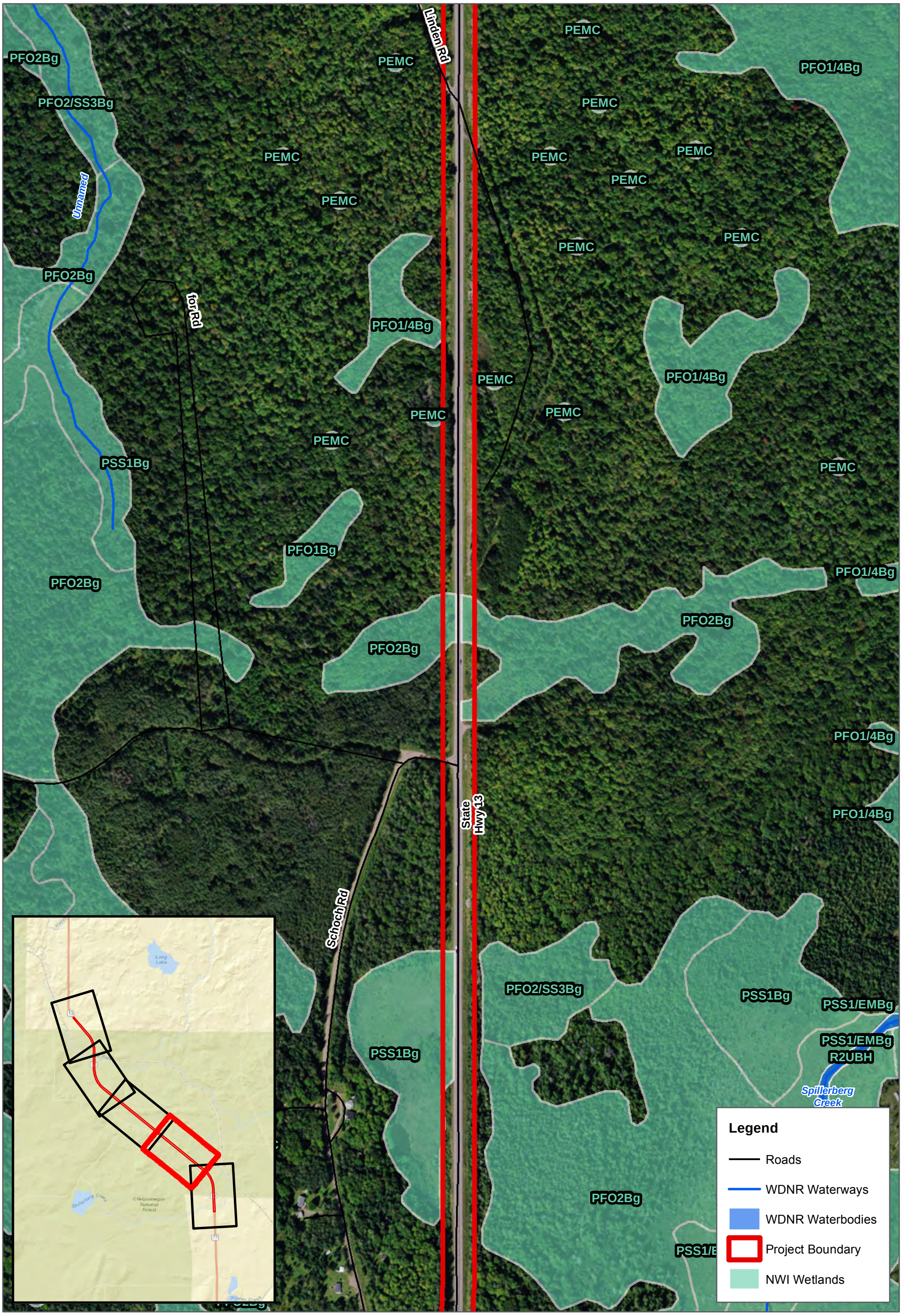
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Wisconsin Wetland Inventory.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Wisconsin Wetland Inventory

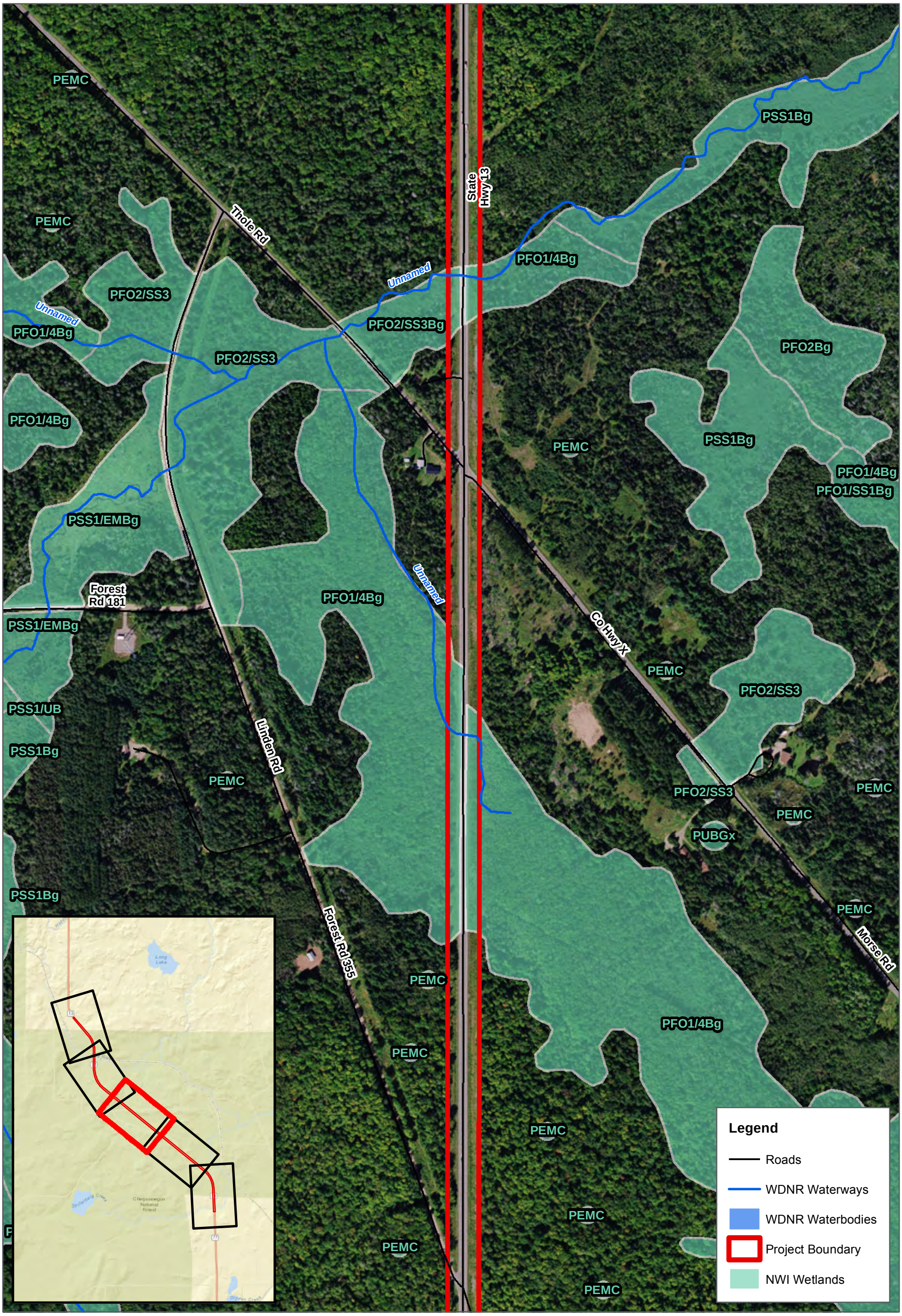
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Wisconsin Wetland Inventory.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Wisconsin Wetland Inventory

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

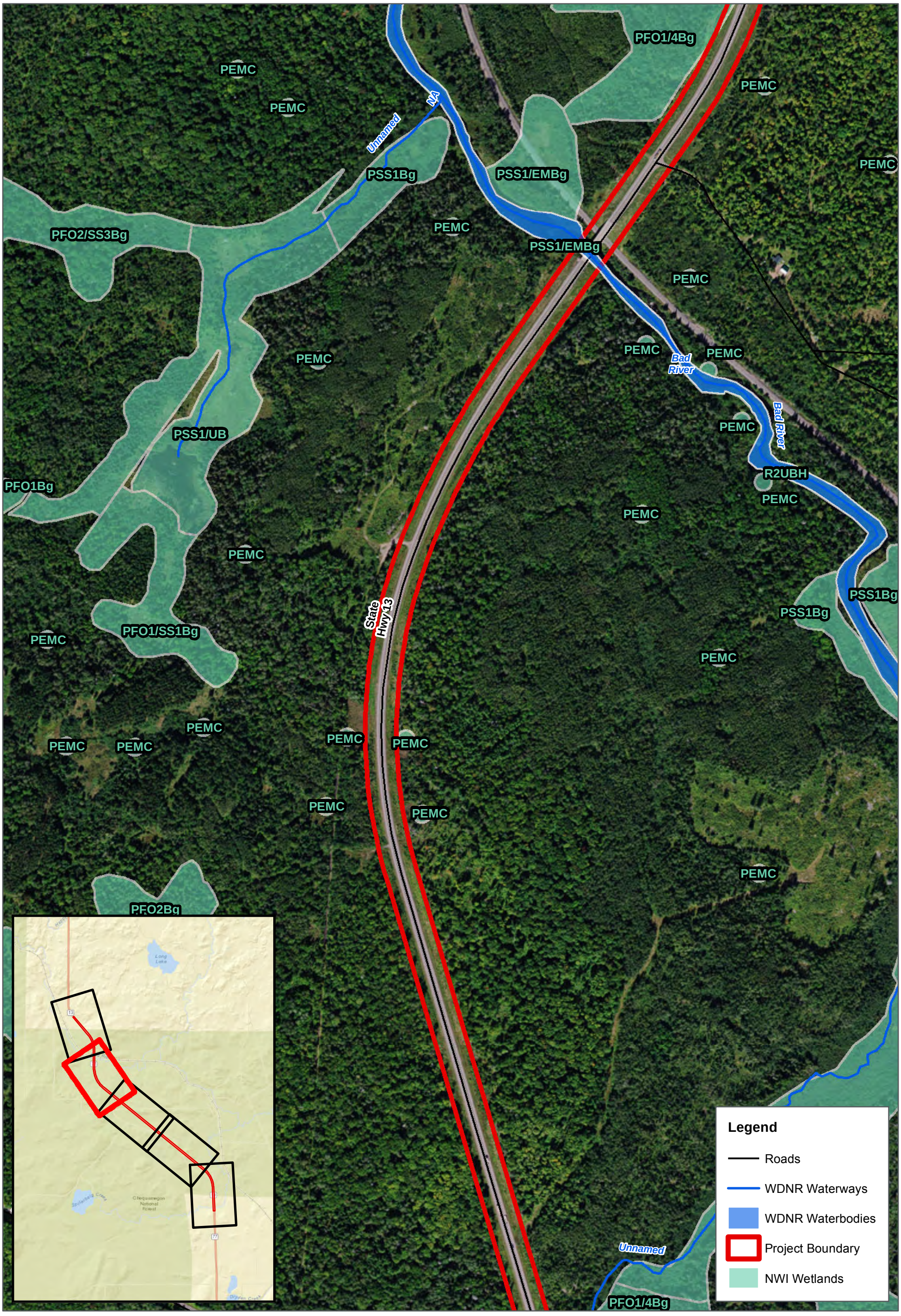
Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Wisconsin Wetland Inventory.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Wisconsin Wetland Inventory

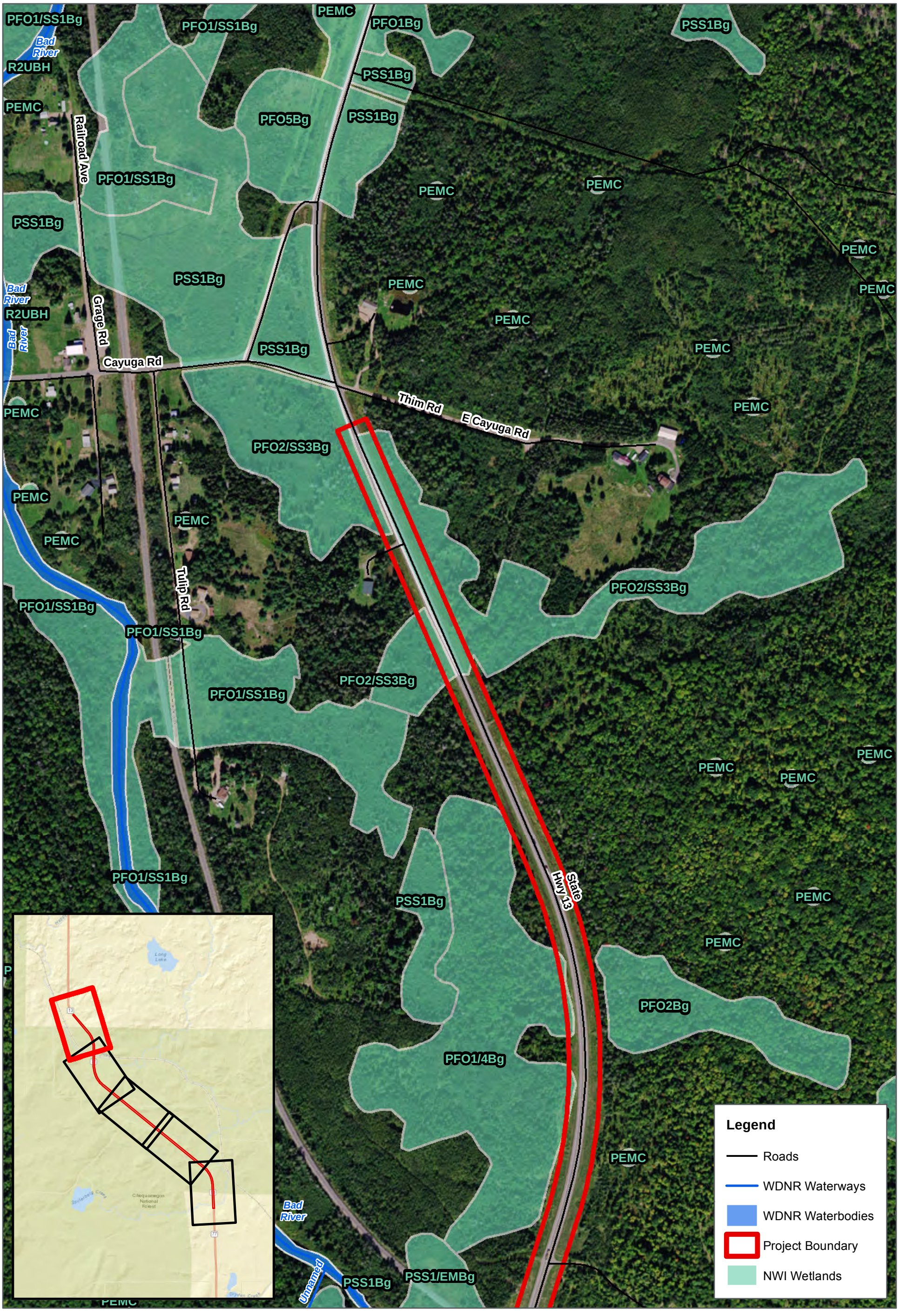
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Wisconsin Wetland Inventory.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W
E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Wisconsin Wetland Inventory

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Wisconsin Wetland Inventory.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

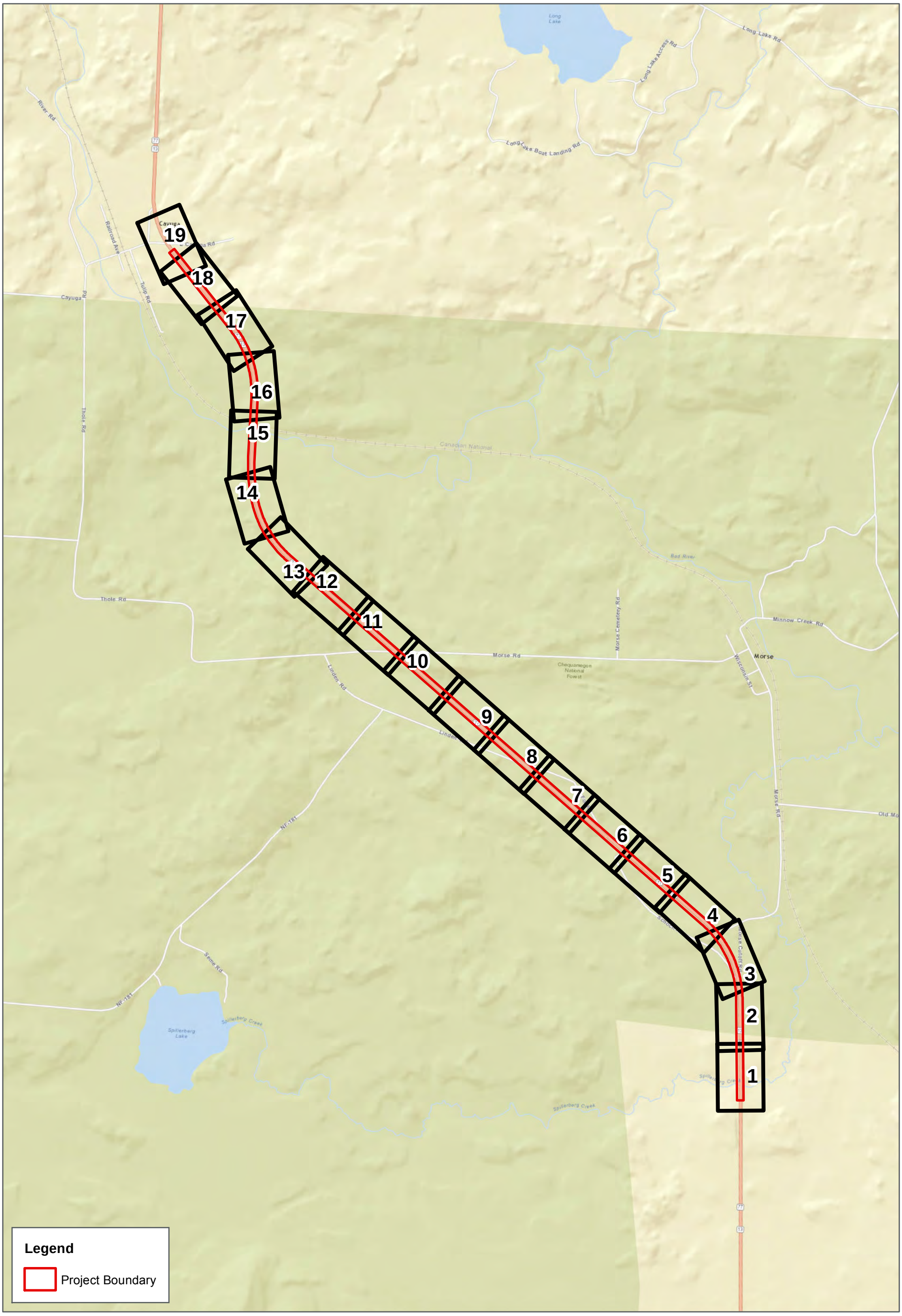
GIS Analyst: Alex Cohen

STH 13 Morse Road to Cayuga Road

FIGURE 5

Delineated Wetlands and Waterways

This page intentionally left blank.



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

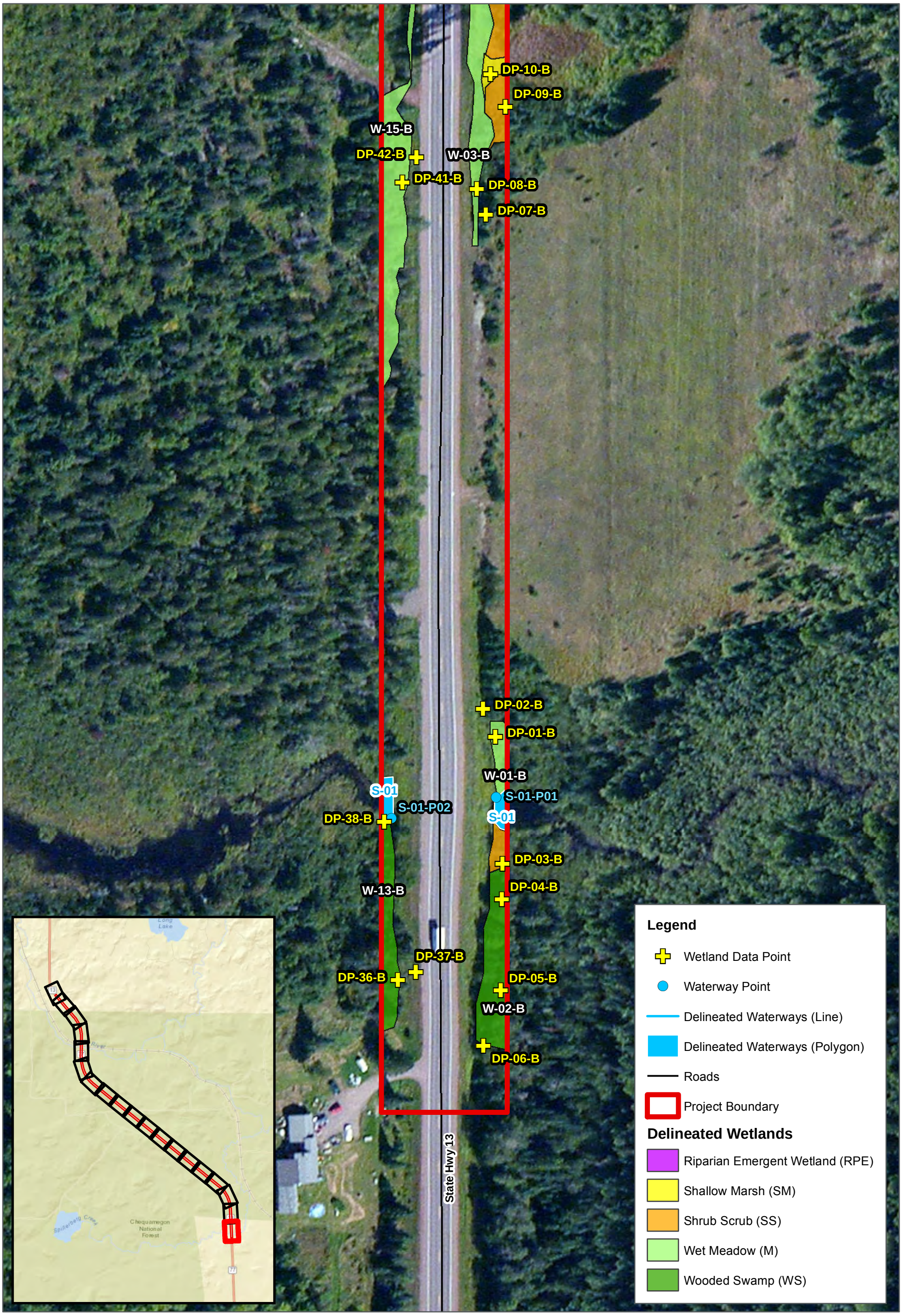
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,000 2,000 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

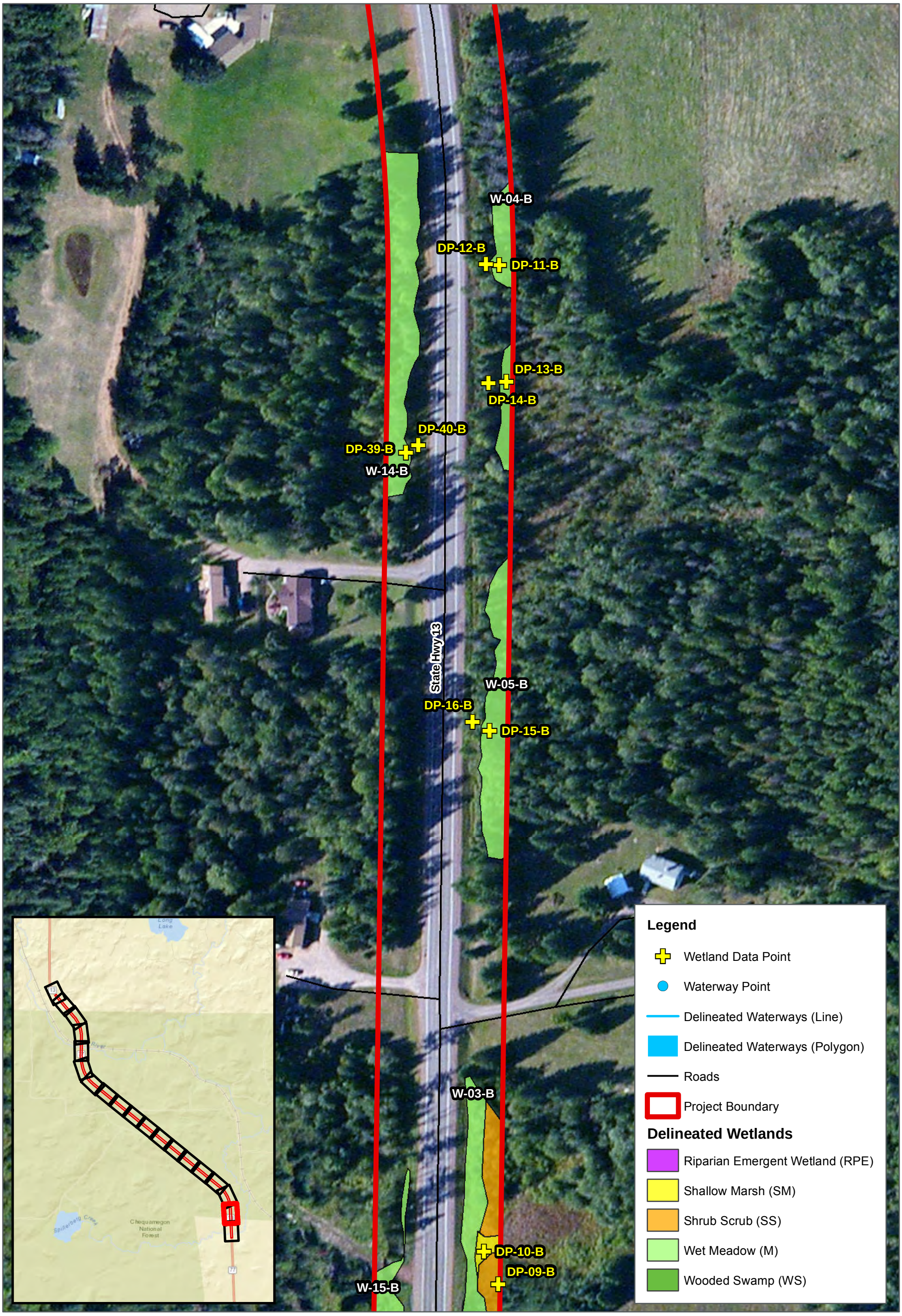
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

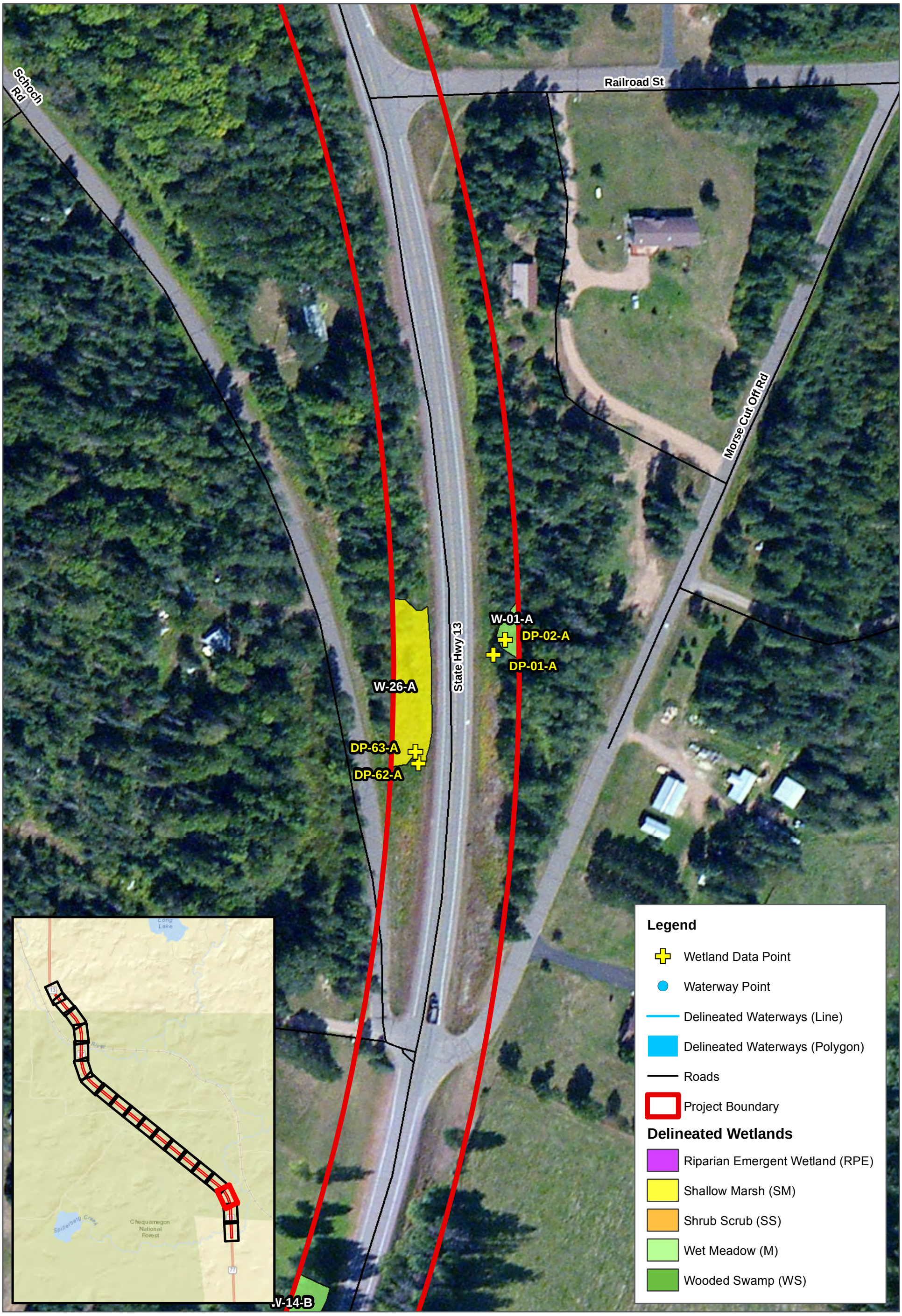
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-25-A

W-02-A

DP-04-A

DP-03-A

State Hwy 13

Railroad St

Schoc



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Delineated Wetlands and Waterways

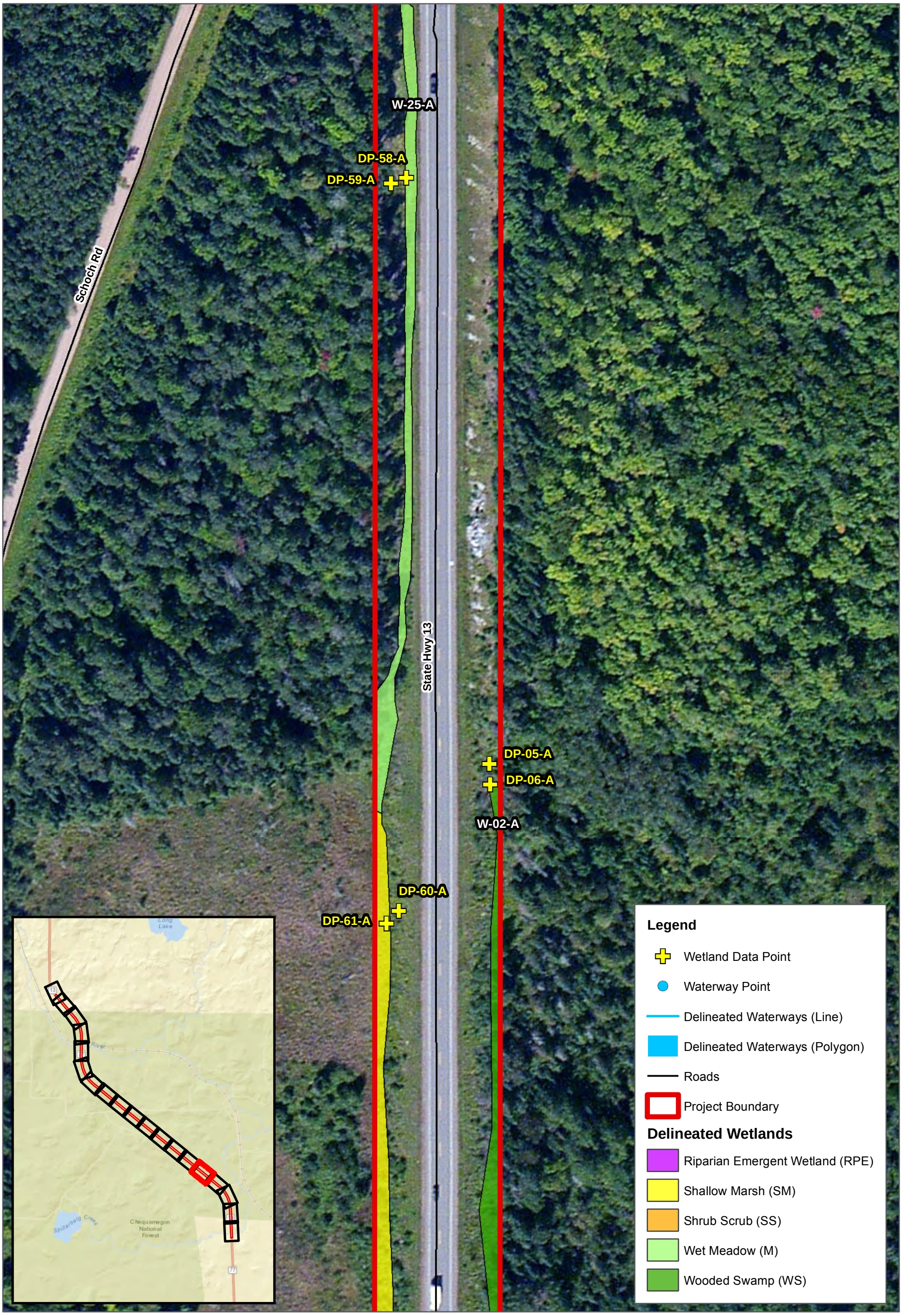
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-23-A
W-04-A
State Hwy 13
DP-09-A
DP-10-A
W-03-A
DP-08-A
DP-56-A
DP-57-A
DP-07-A
W-24-A
W-25-A
Long Lake
Spitzerberg Creek
Chequamegon National Forest
77

Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

DP-15-A
W-22-A
DP-52-A
DP-53-A
State Hwy 13
DP-13-A
DP-14-A
W-05-A
W-23-A
DP-54-A
DP-55-A
DP-11-A
DP-12-A
W-04-A



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

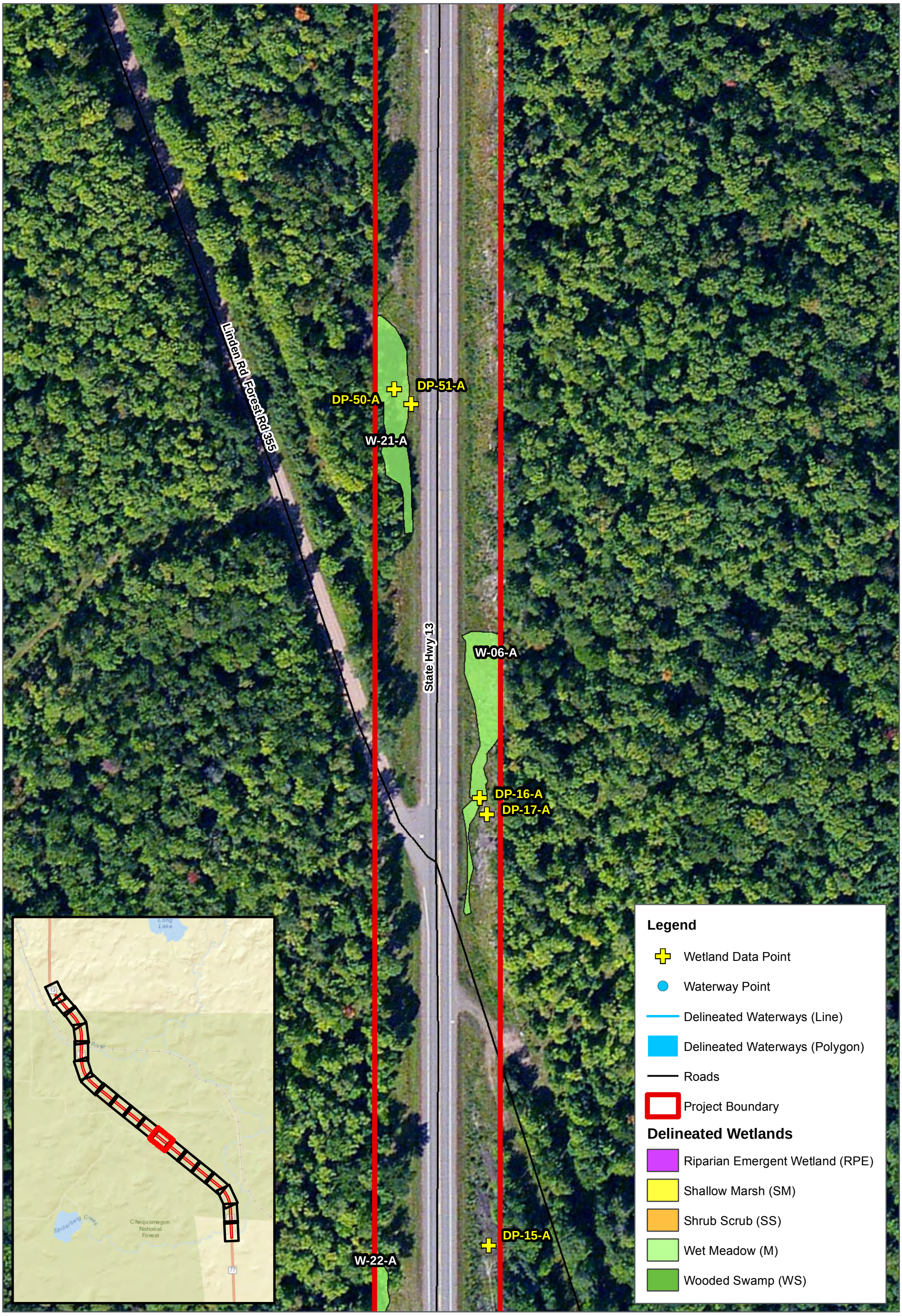
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

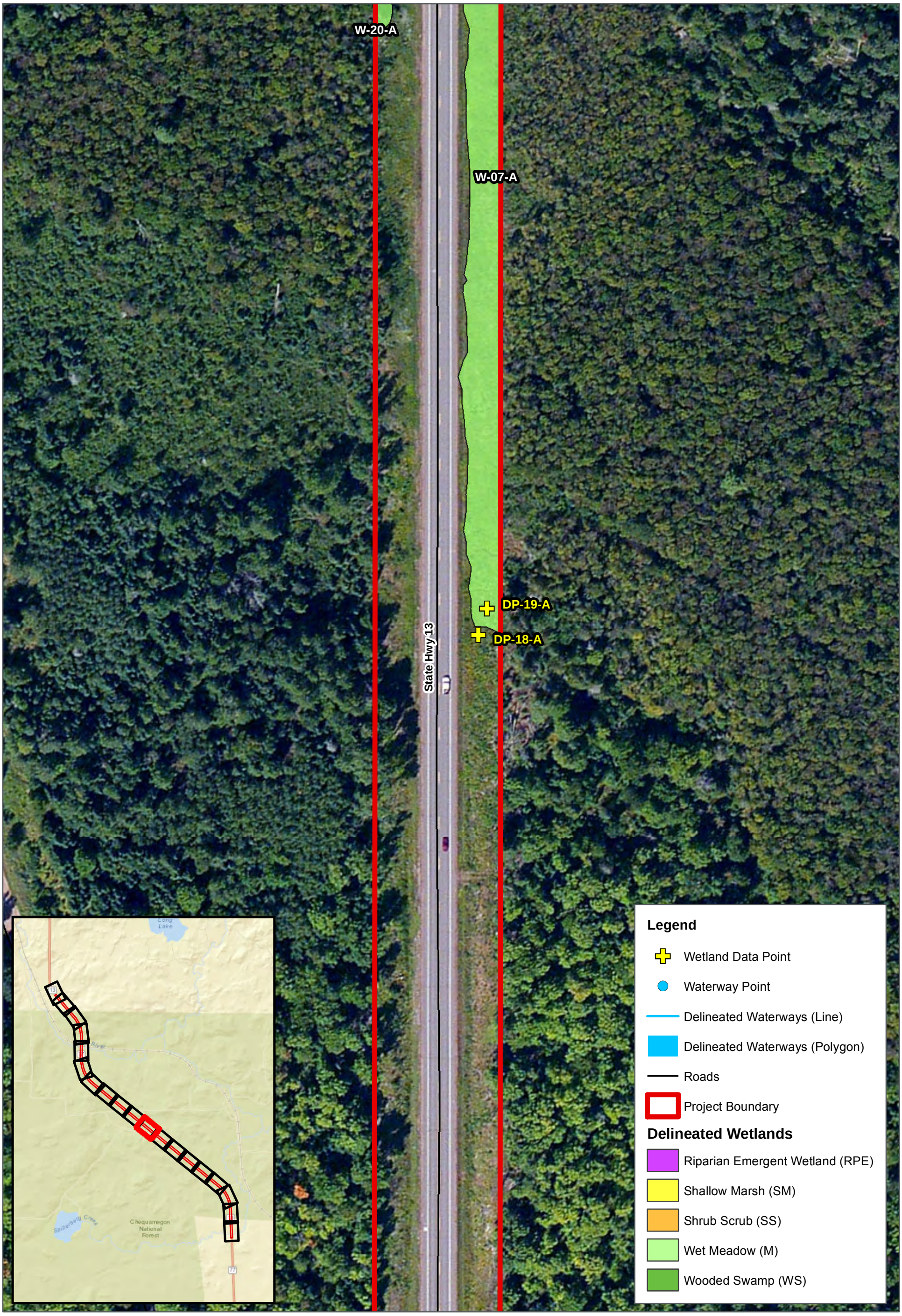
Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen



Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

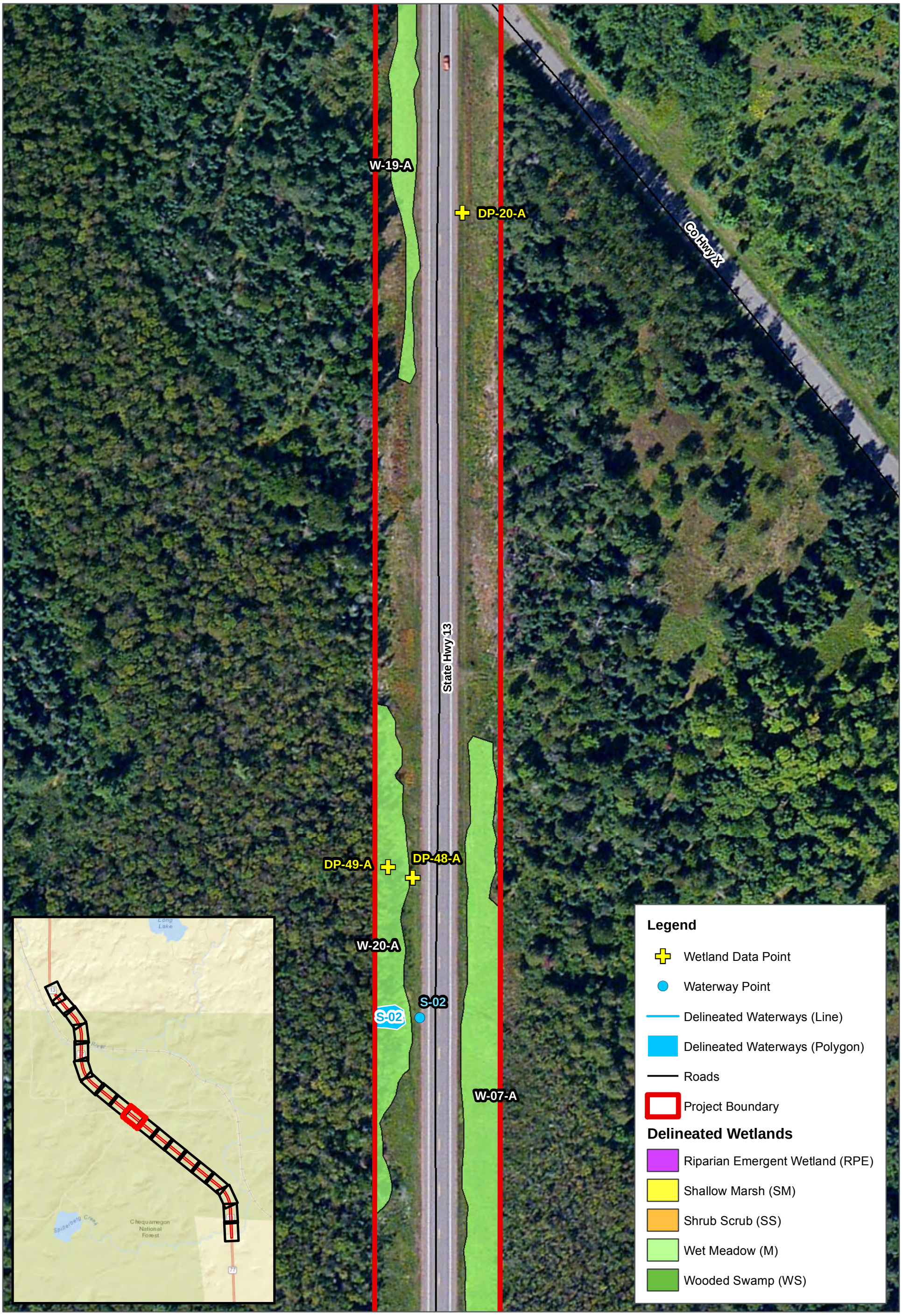
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

DP-21-A
DP-22-A
DP-45-A
DP-44-A
W-08-A
S-03-P02
S-03
S-03-P01
W-18-A
State Hwy 13
Thole Rd
DP-46-A
DP-47-A
W-19-A
Co Hwy X
Chequamegon National Forest

Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen

W-17-A
DP-43-A
DP-42-A
DP-24-A
DP-23-A
W-09-A
State Hwy 13



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

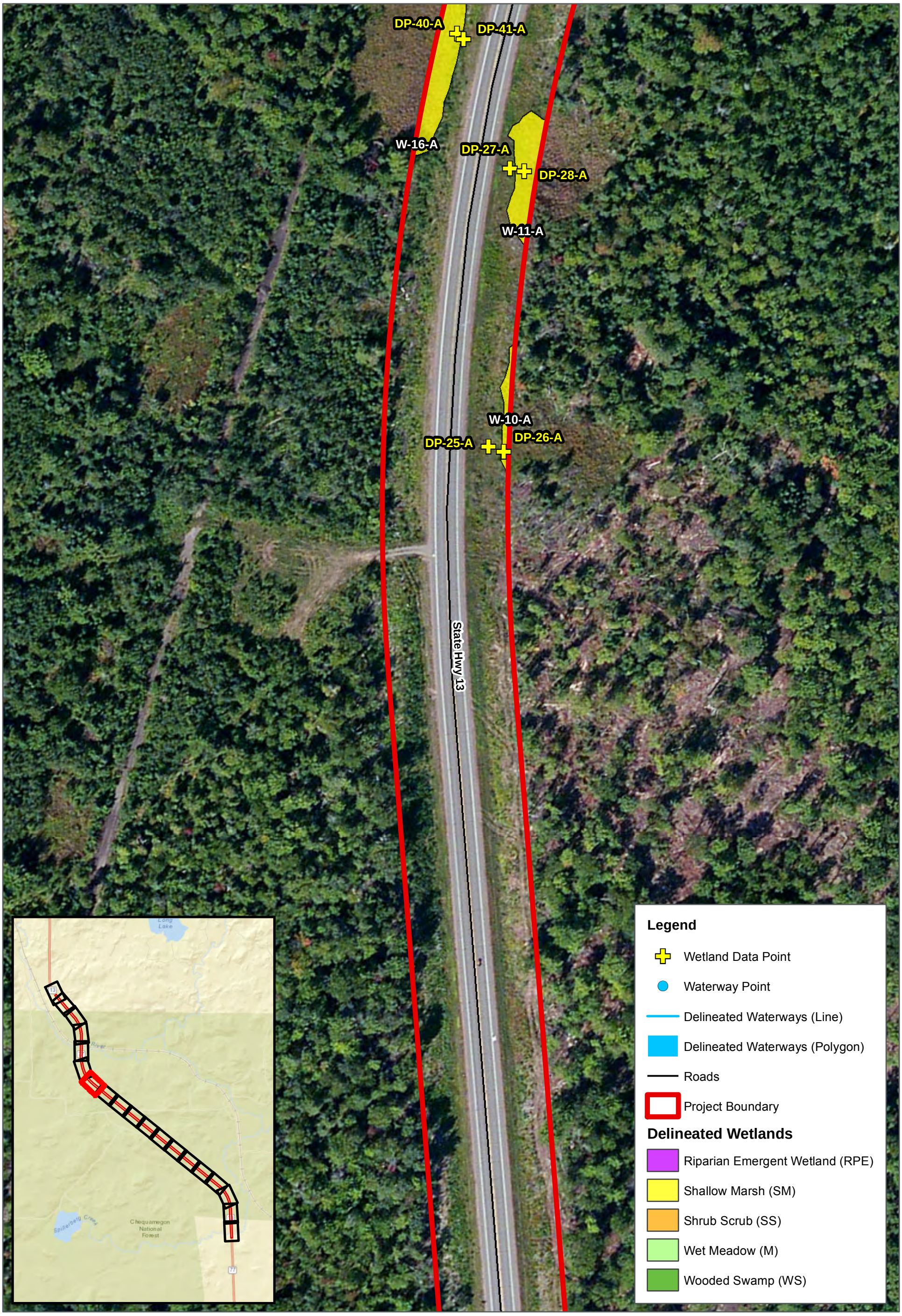
Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen



Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

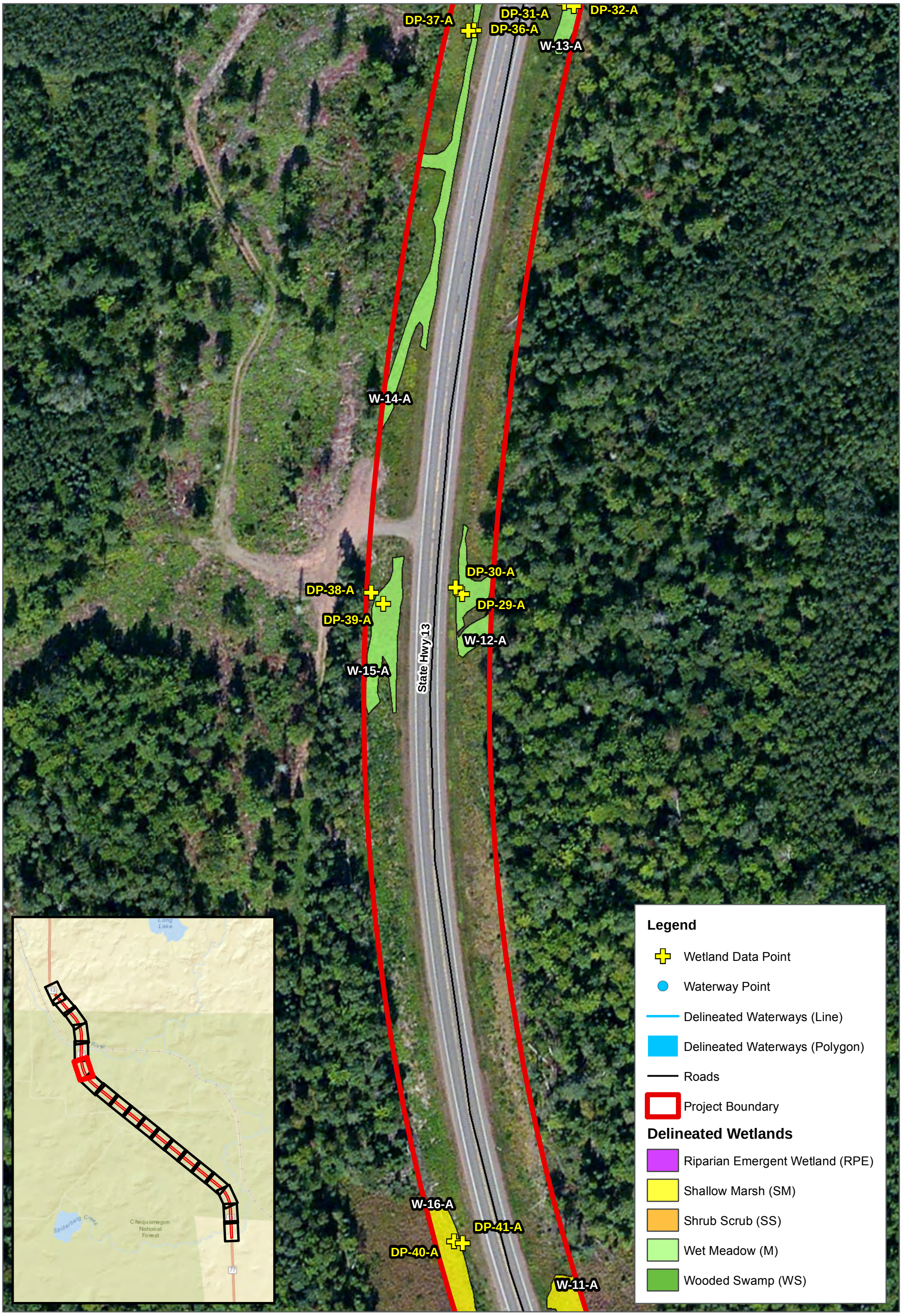
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

S-04

DP-35-A

State Hwy 13

W-14-A

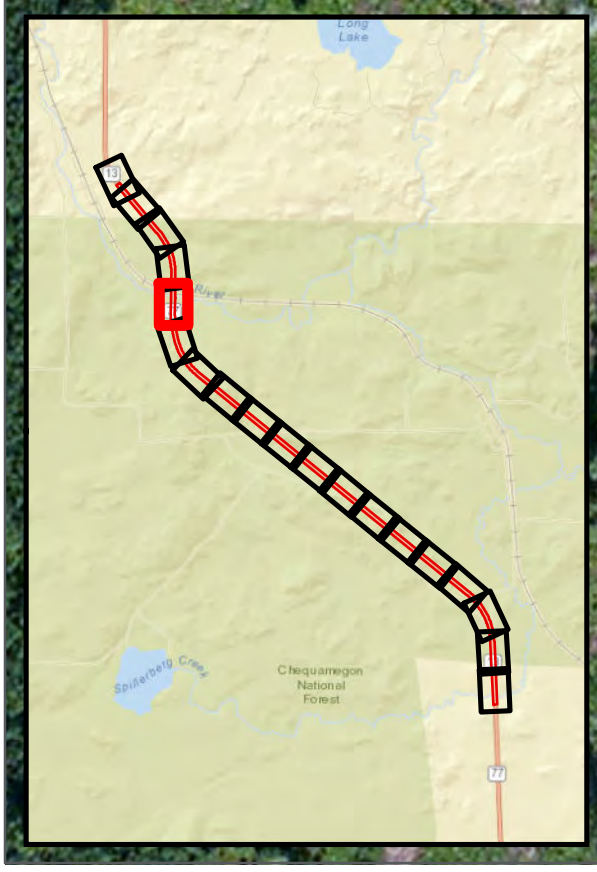
W-13-A

DP-31-A

DP-32-A

DP-36-A

DP-37-A



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

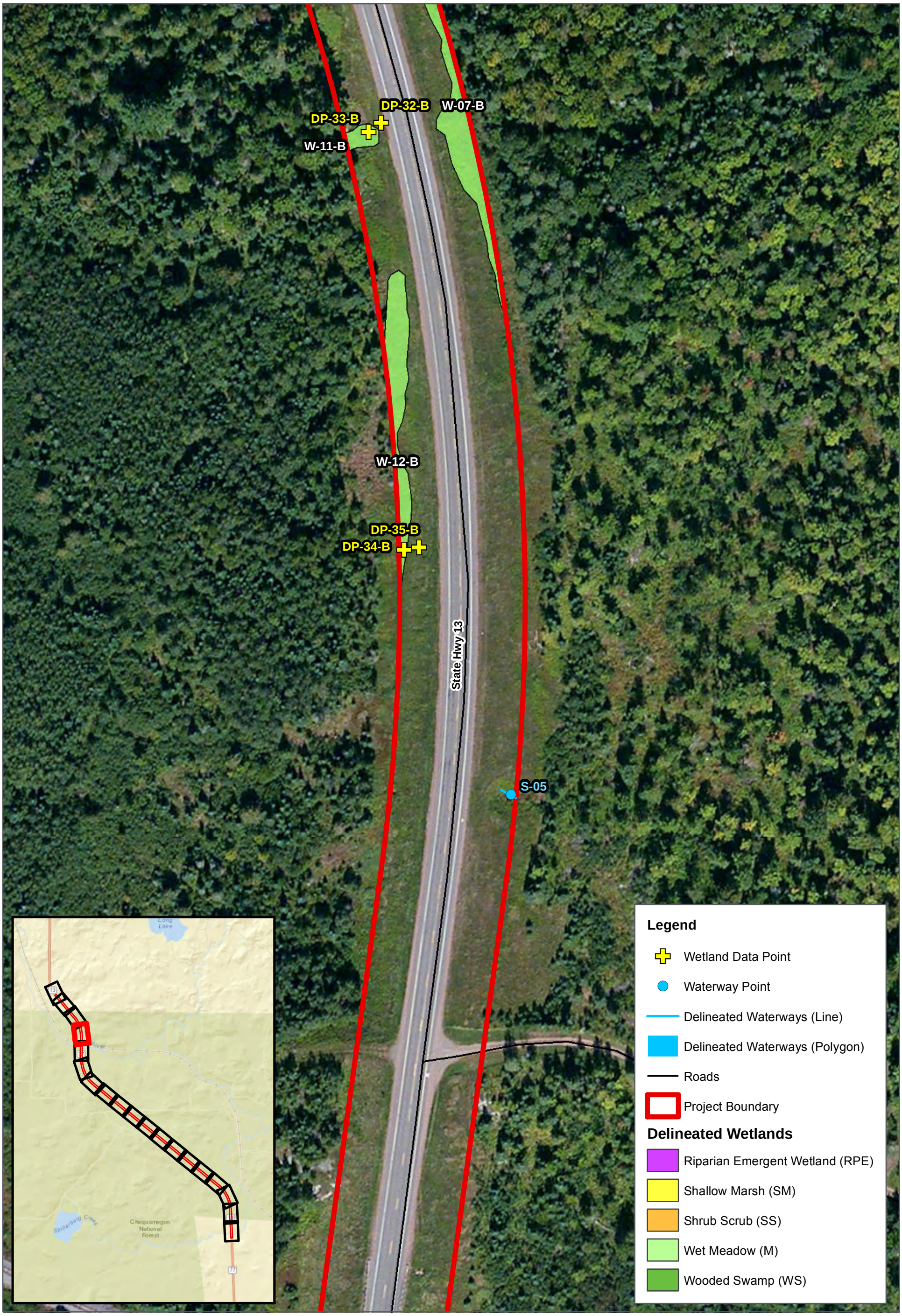
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

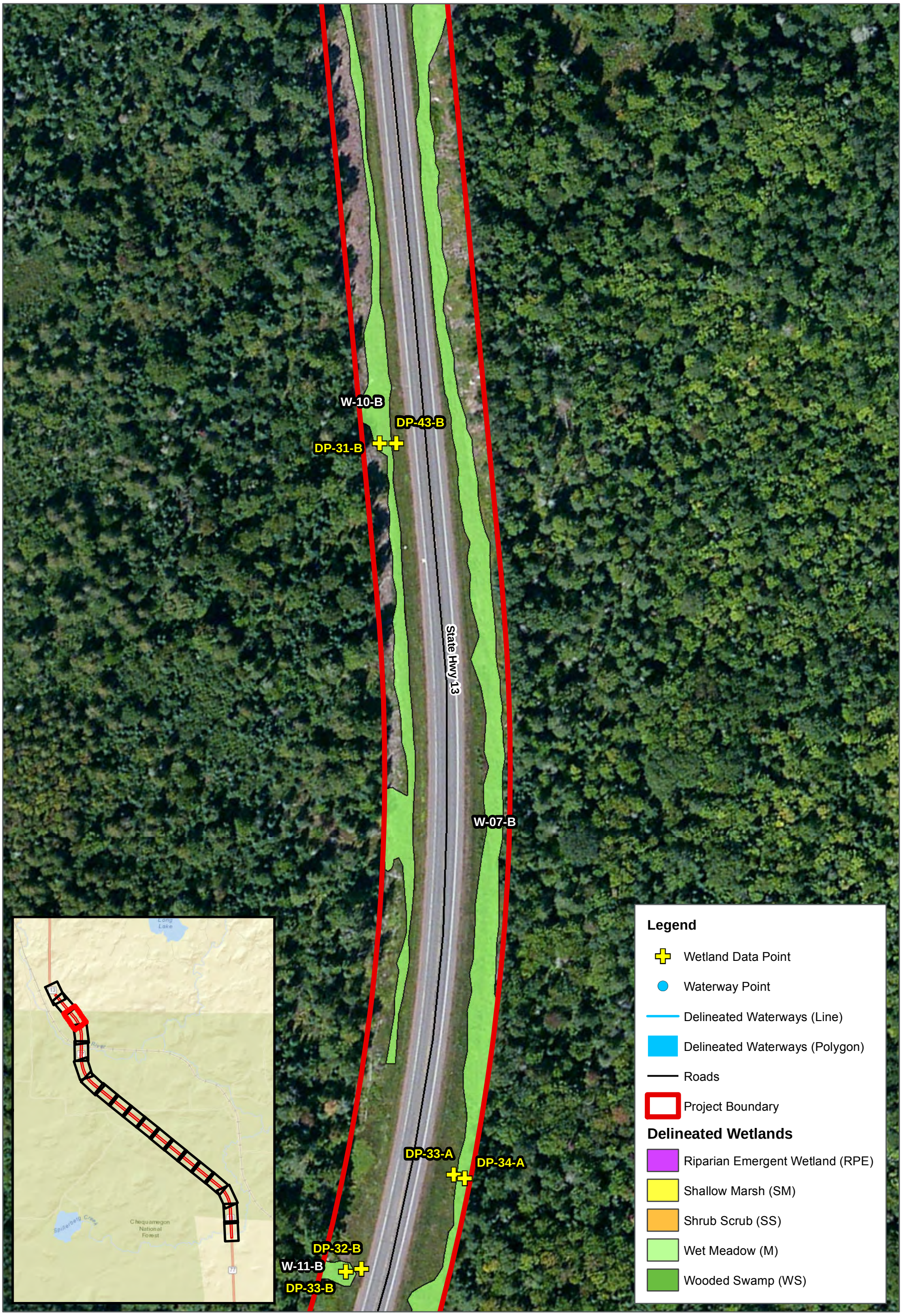
0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

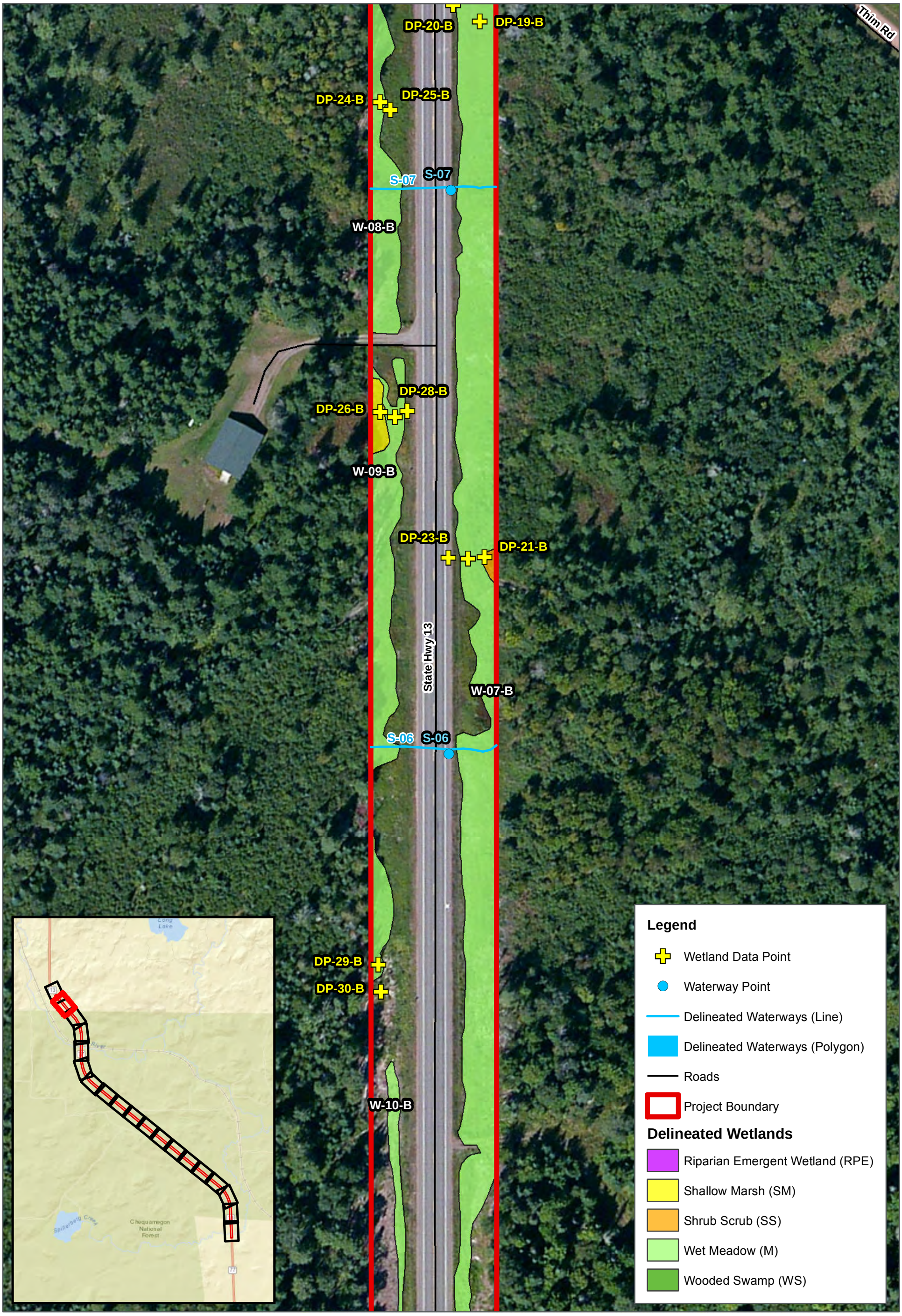
0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

Cayuga Rd

State Hwy 13

E Cayuga Rd

Thim Rd

W-06-B

DP-17-B

DP-18-B

W-08-B

DP-20-B

DP-19-B

DP-24-B

DP-25-B

S-07

S-07

W-07-B

W-09-B



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

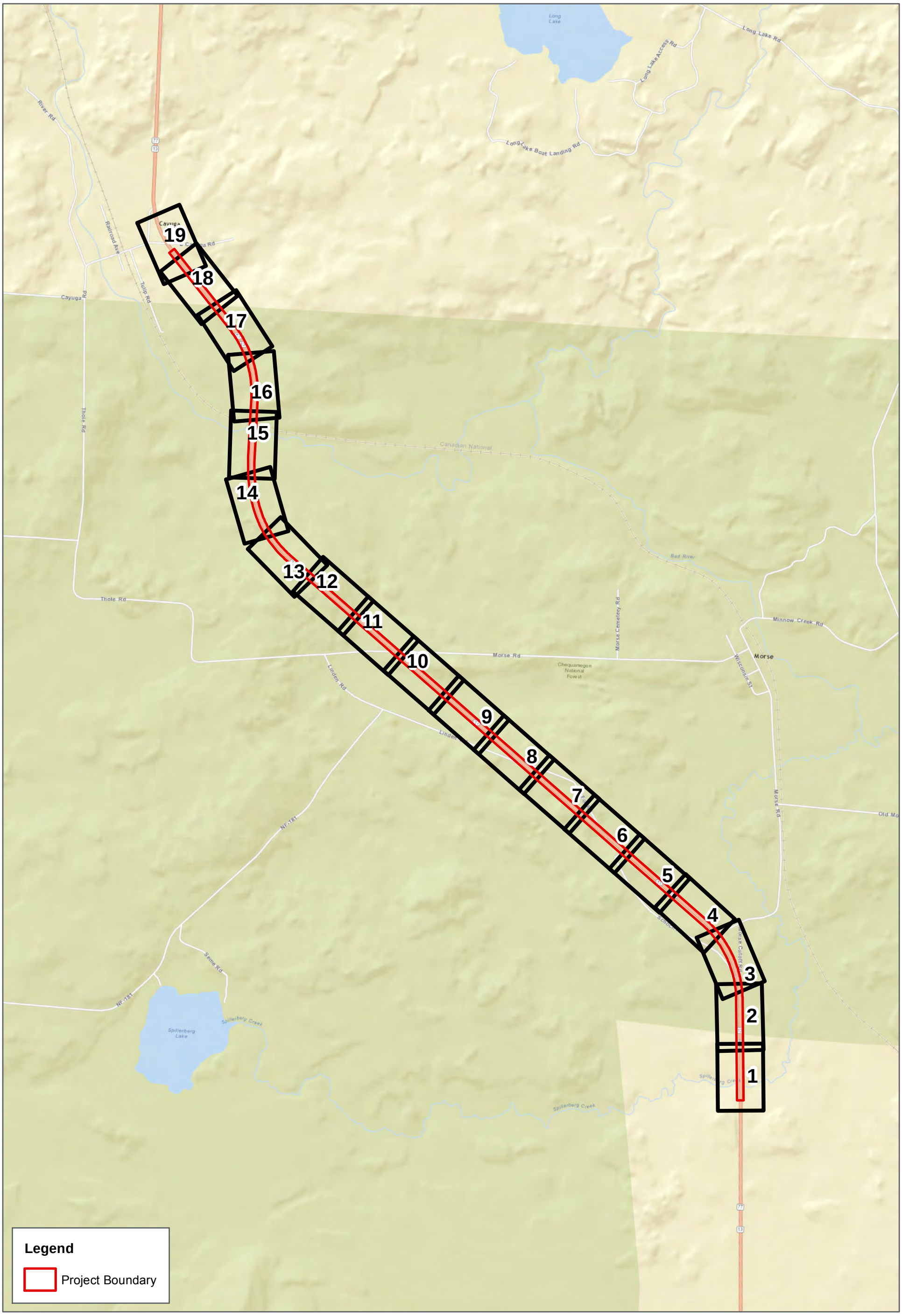
GIS Analyst: Alex Cohen

STH 13 Morse Road to Cayuga Road

FIGURE 6

Photo Points

This page intentionally left blank.



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

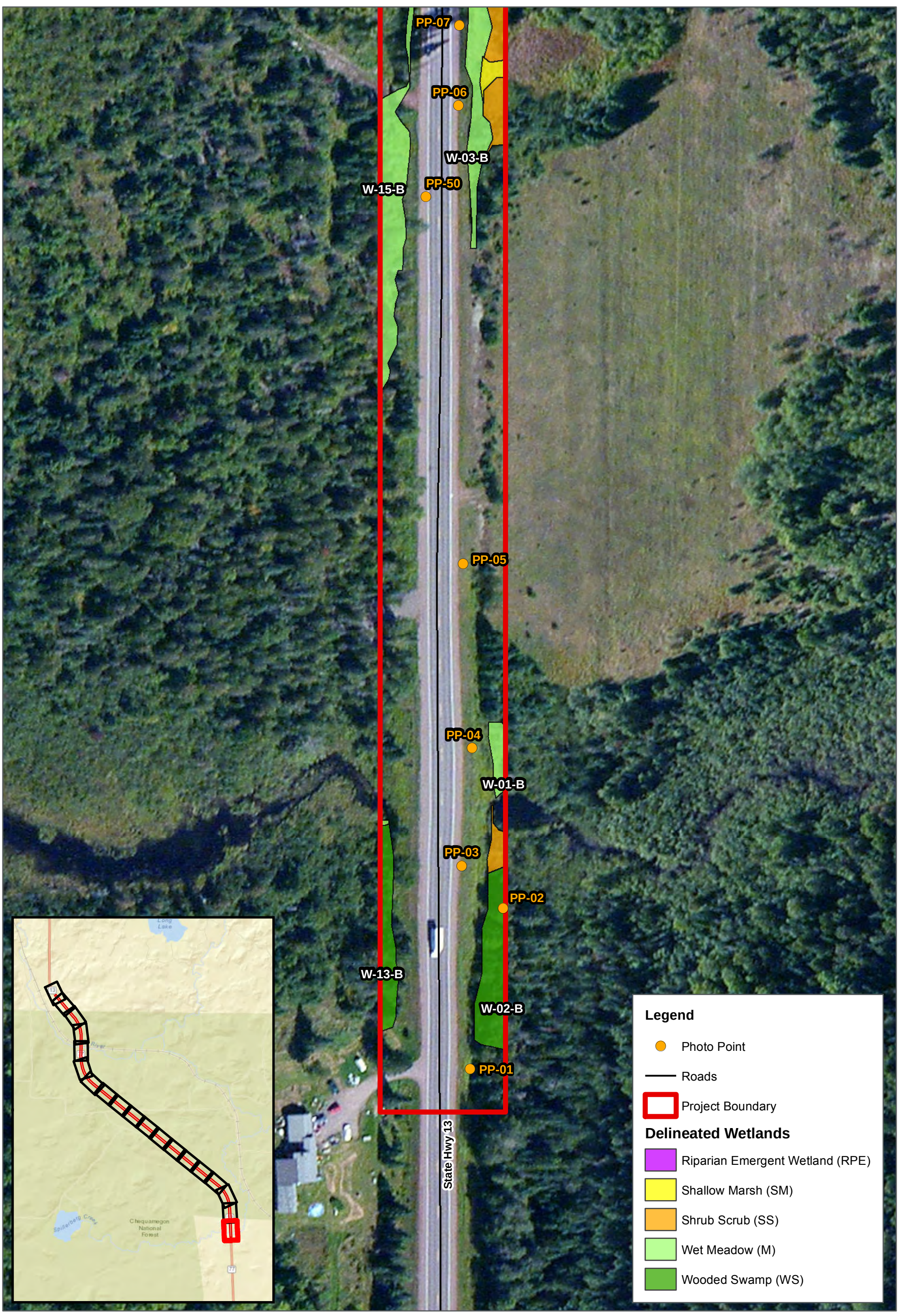
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,000 2,000 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

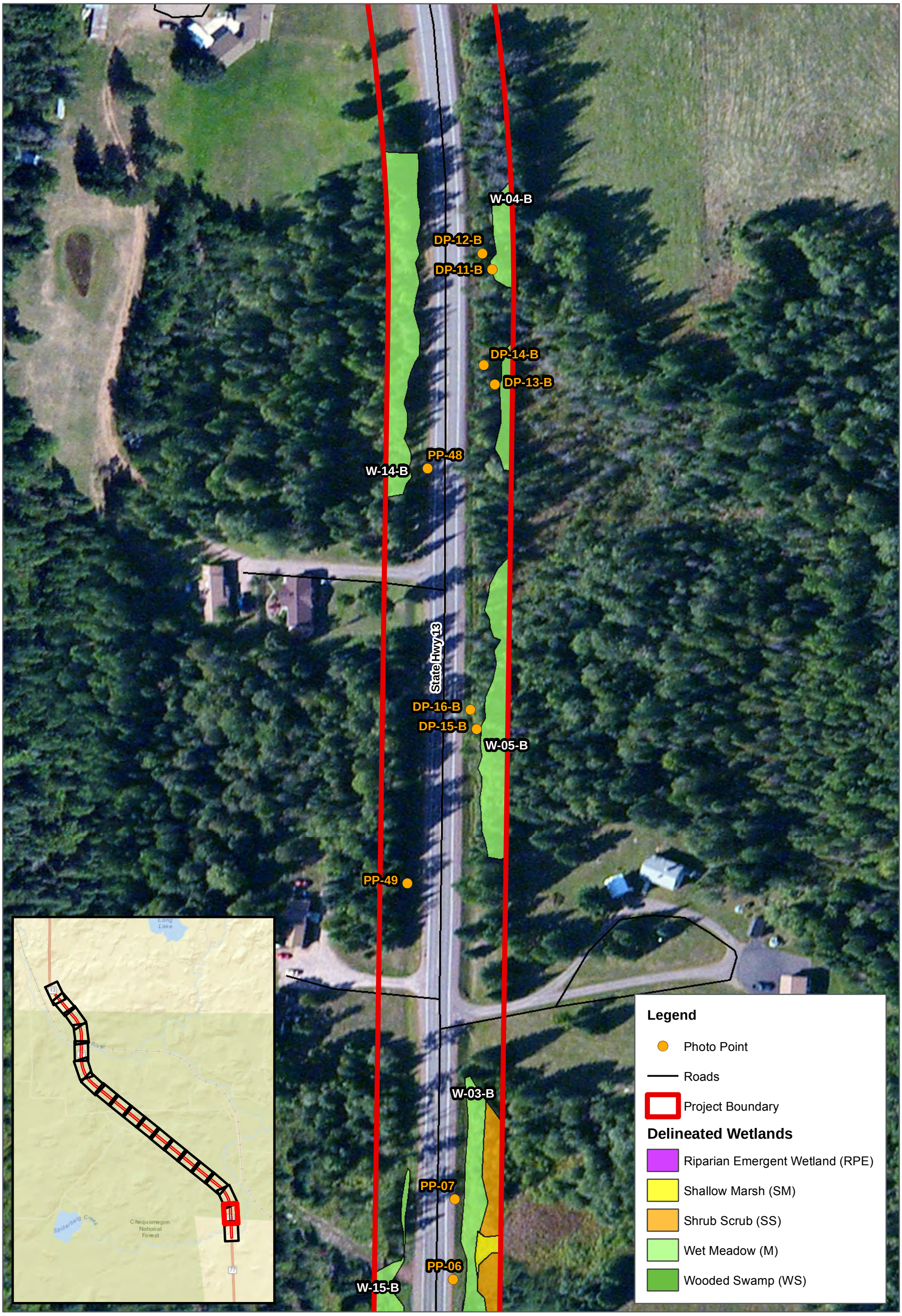
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

Schoch Rd

Railroad St

PP-10

Morse Cut Off Rd

W-01-A

PP-09

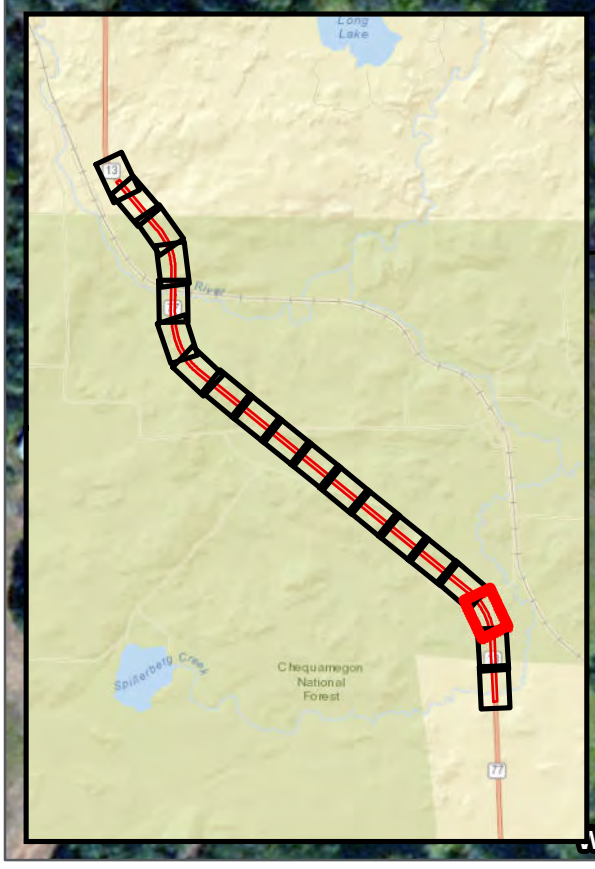
State Hwy 13

W-26-A

PP-47

PP-08

W-14-B



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

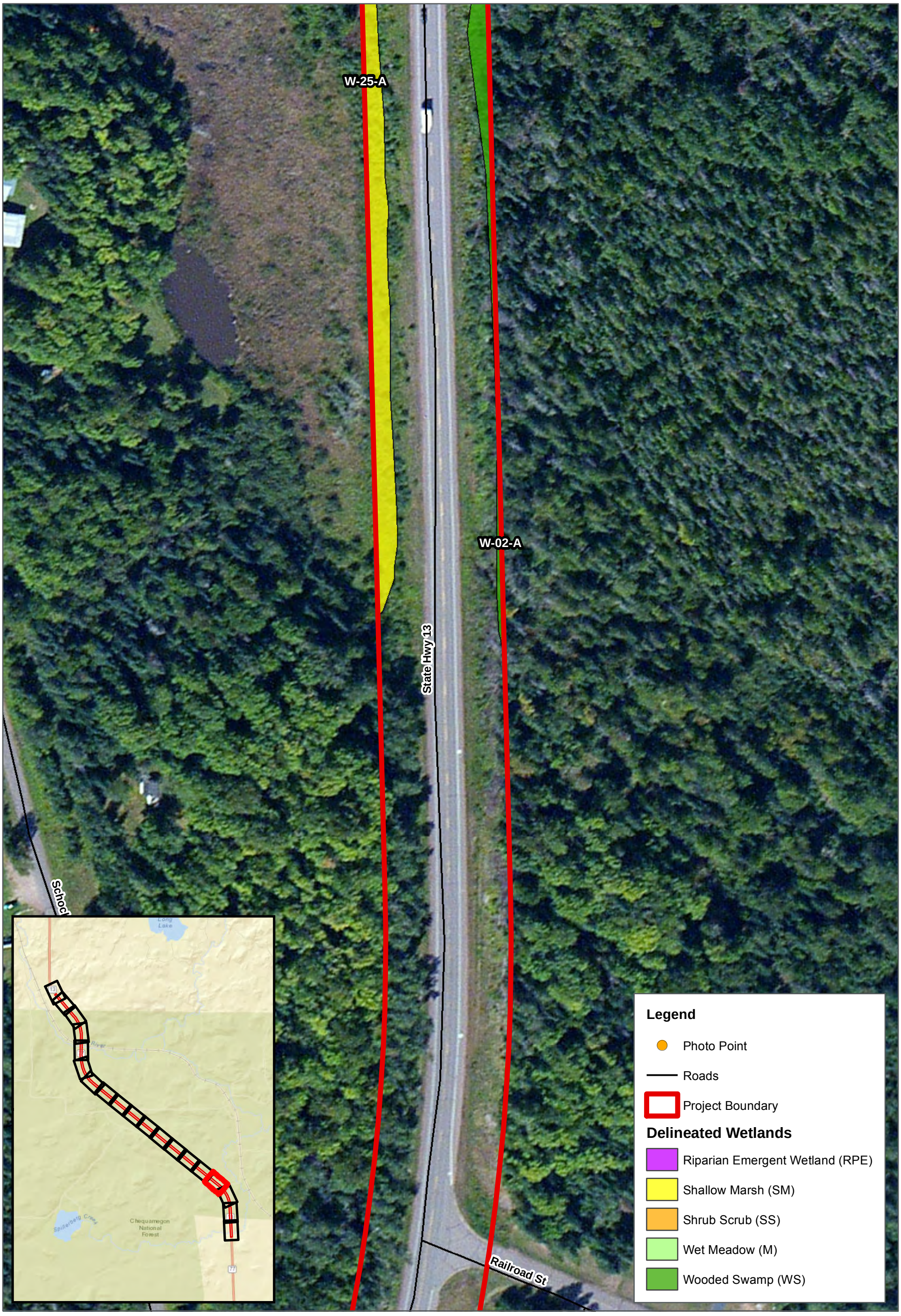
0 50 100 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

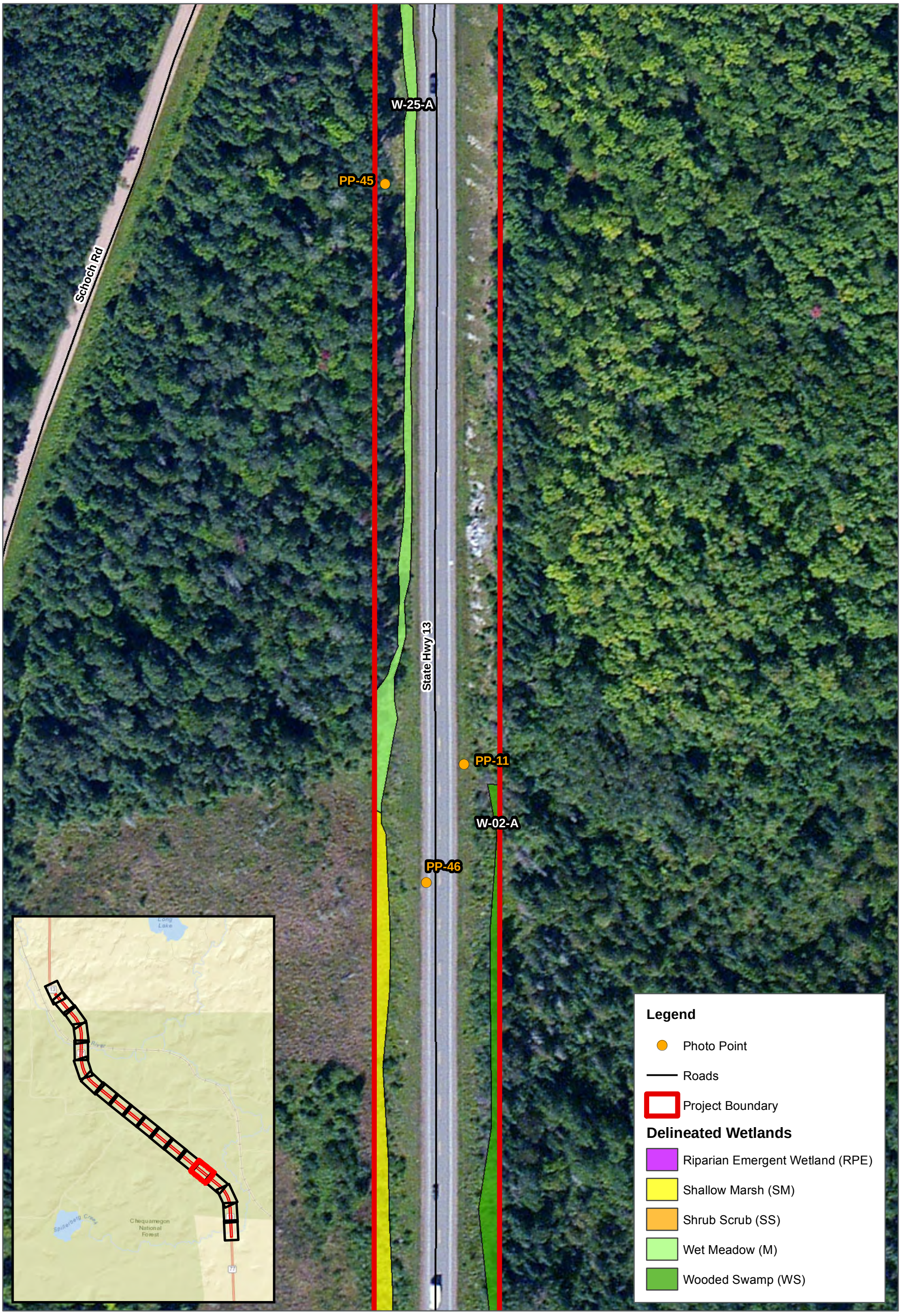
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-15
PP-14
W-23-A
State Hwy 13
W-04-A
PP-13
W-03-A
PP-44
W-24-A
PP-12
W-25-A
Long Lake
Chequamegon National Forest
Spitzberg Creek

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

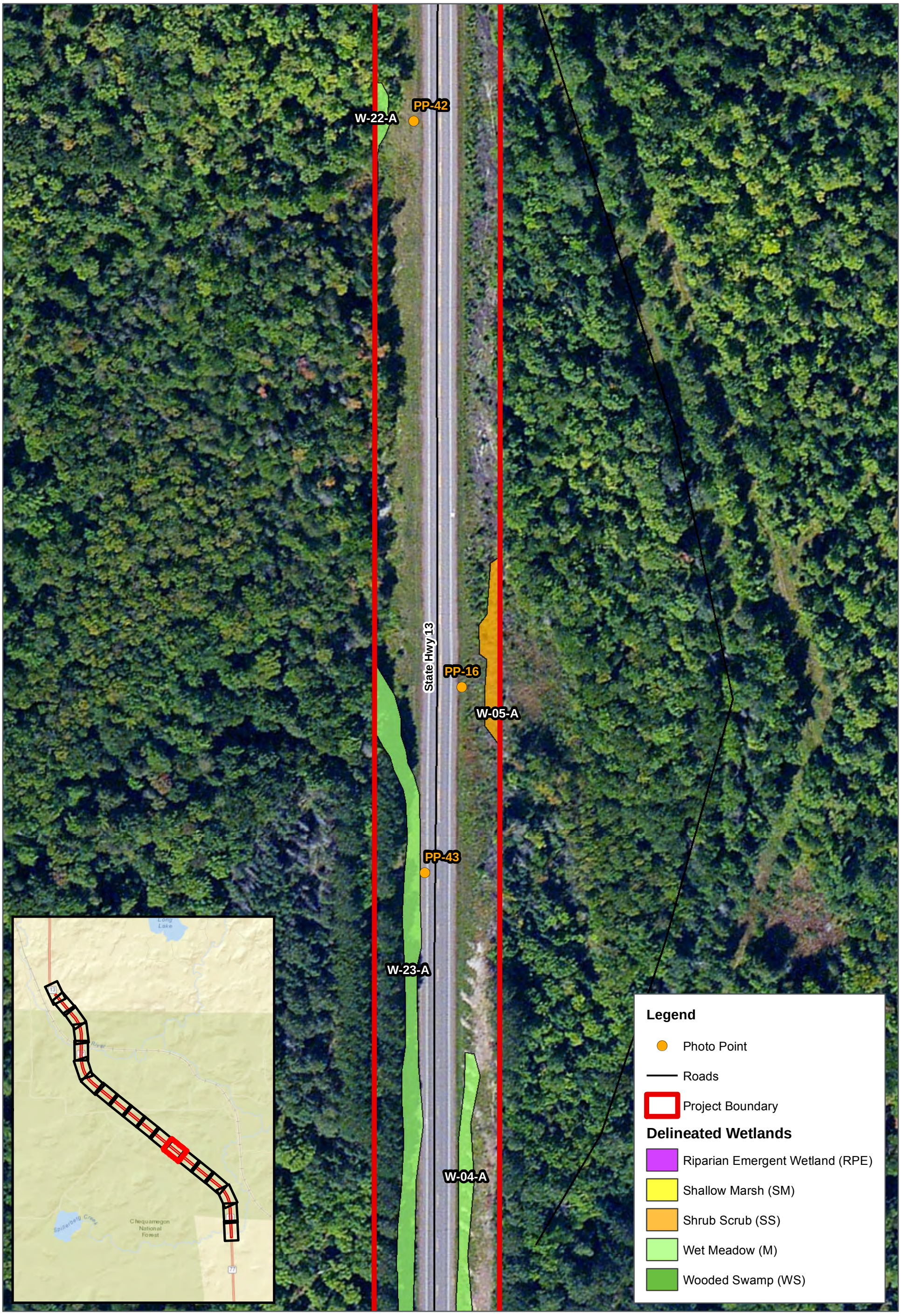
Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen



N W E S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

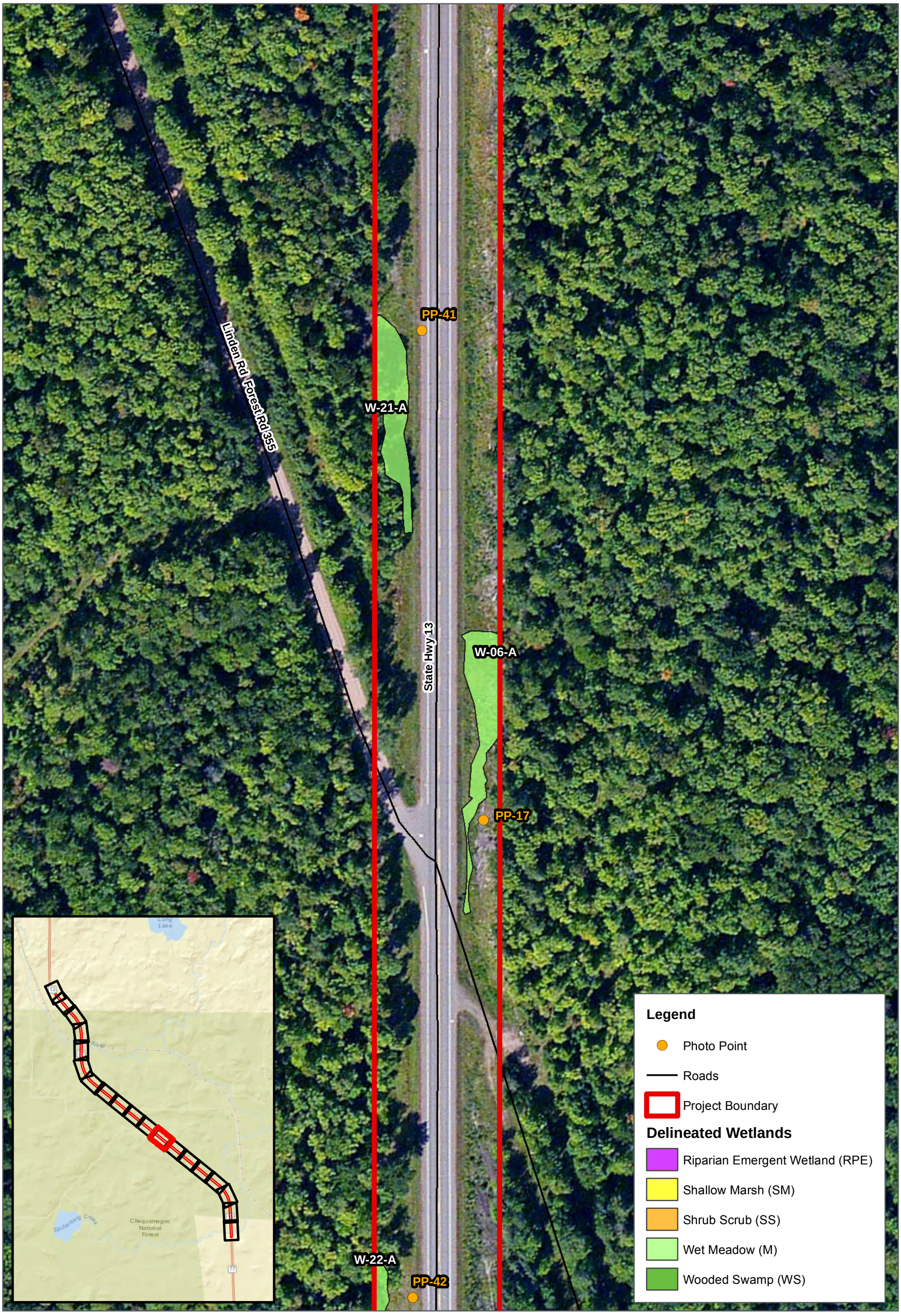
Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen



Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

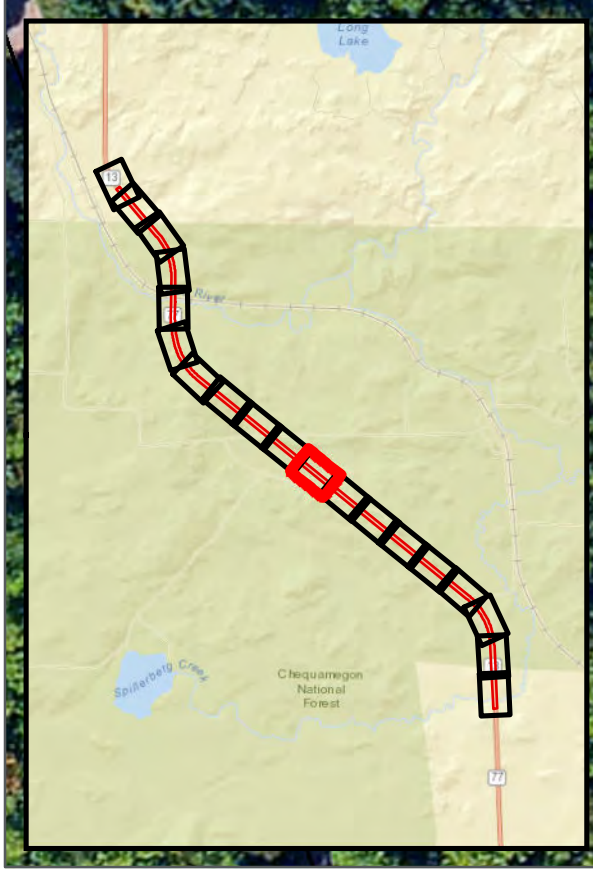
Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-20-A

W-07-A

State Hwy 13



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-19-A

Co Hwy X

State Hwy 13

PP-40

W-20-A

PP-18

W-07-A



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-19

W-08-A

W-18-A

PP-38

State Hwy 13

Thole Rd

Long Lake

Chequamegon National Forest

Spitzbergh Creek

PP-39

W-19-A

Co Hwy X

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

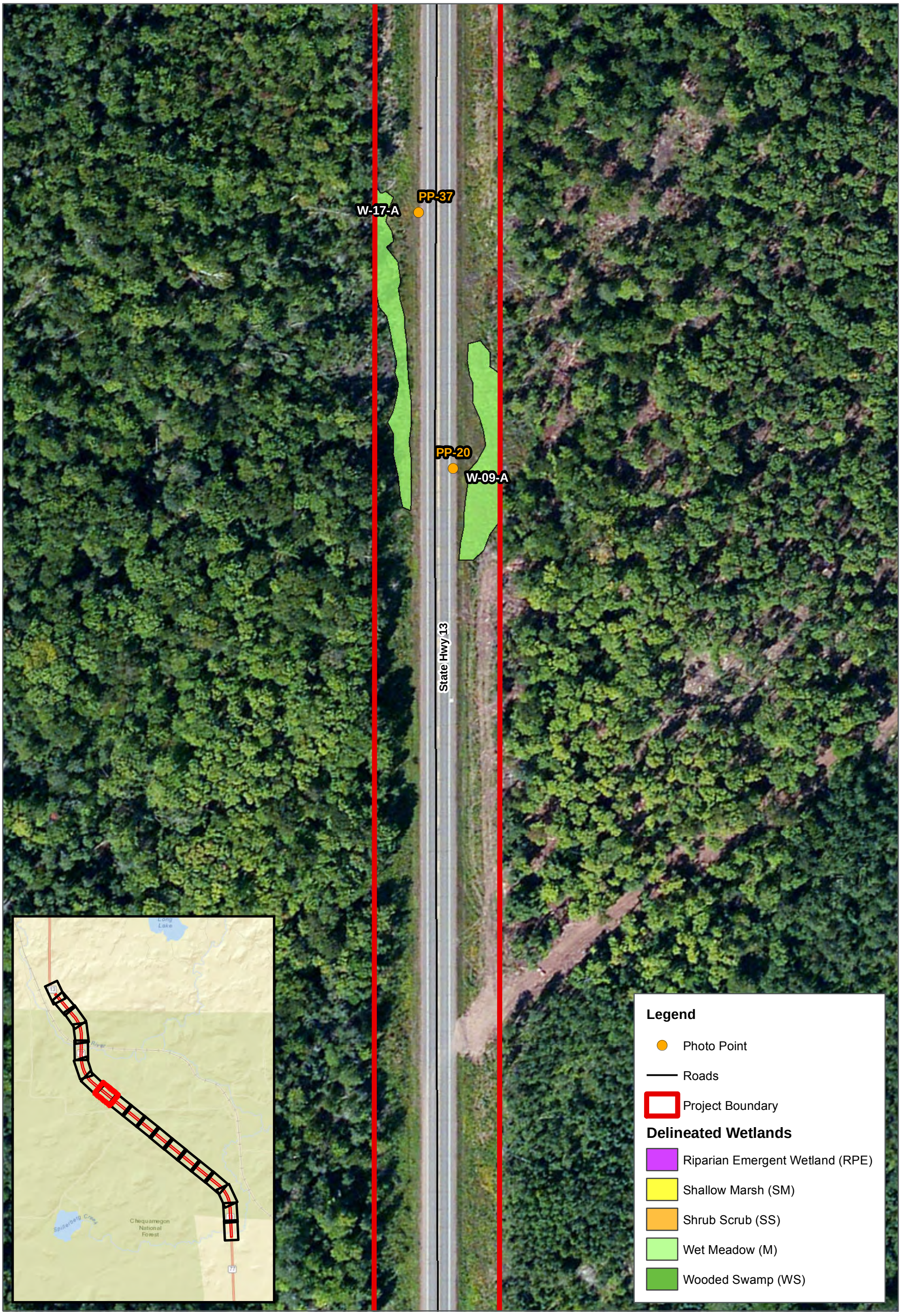
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-36

W-16-A

PP-22

W-11-A

PP-21

W-10-A

State Hwy 13



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-34
PP-24
W-13-A
W-14-A
PP-35
PP-23
W-12-A
W-15-A
State Hwy 13
PP-36
W-16-A
W-11-A
Long Lake
Chequamegon National Forest
Spitzberg Creek

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N
W
E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

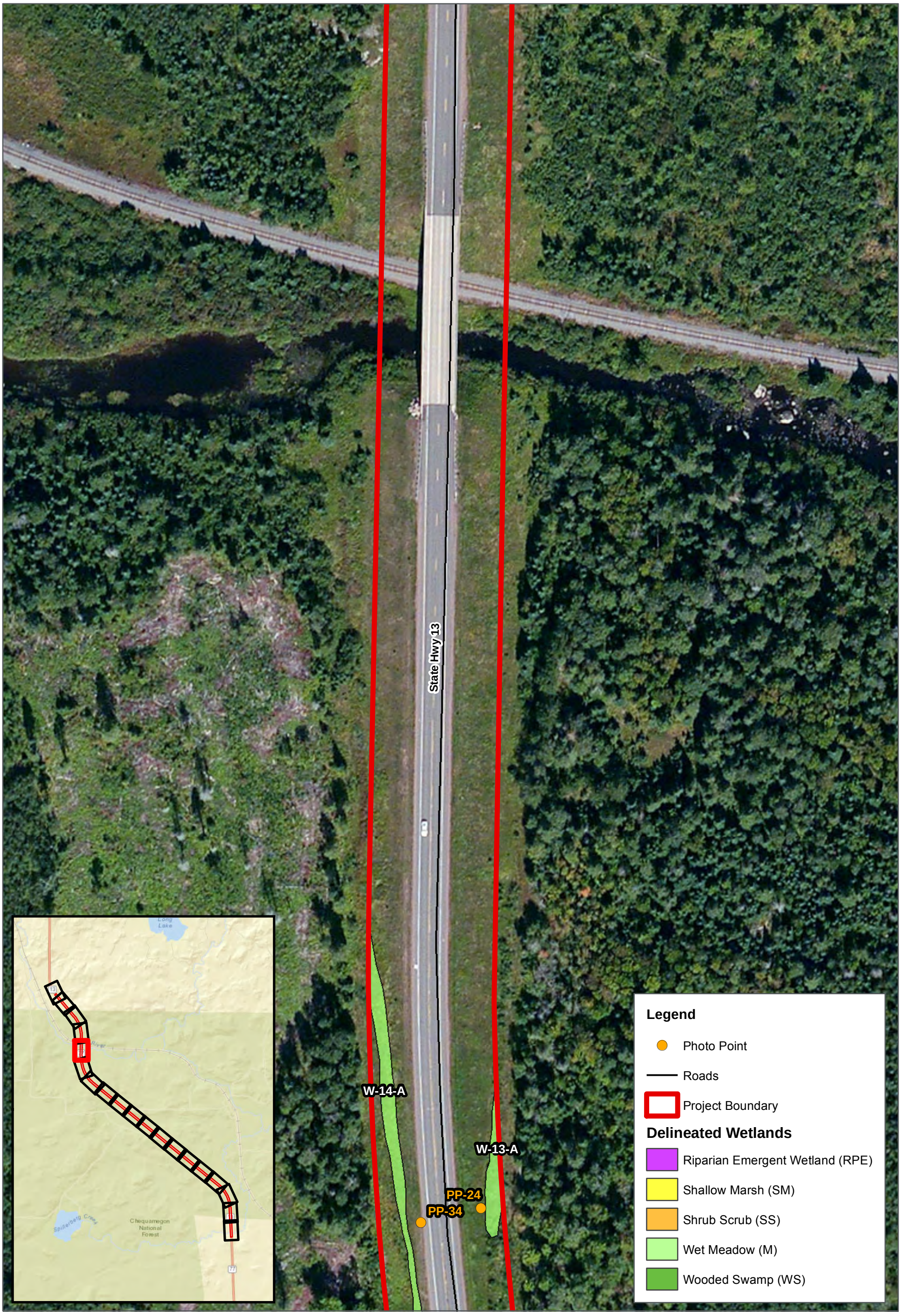
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-25
W-07-B
W-11-B
W-12-B
PP-31
State Hwy 13
PP-32
PP-33
Long Lake
Chequamegon National Forest
Spitlerberg Creek

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

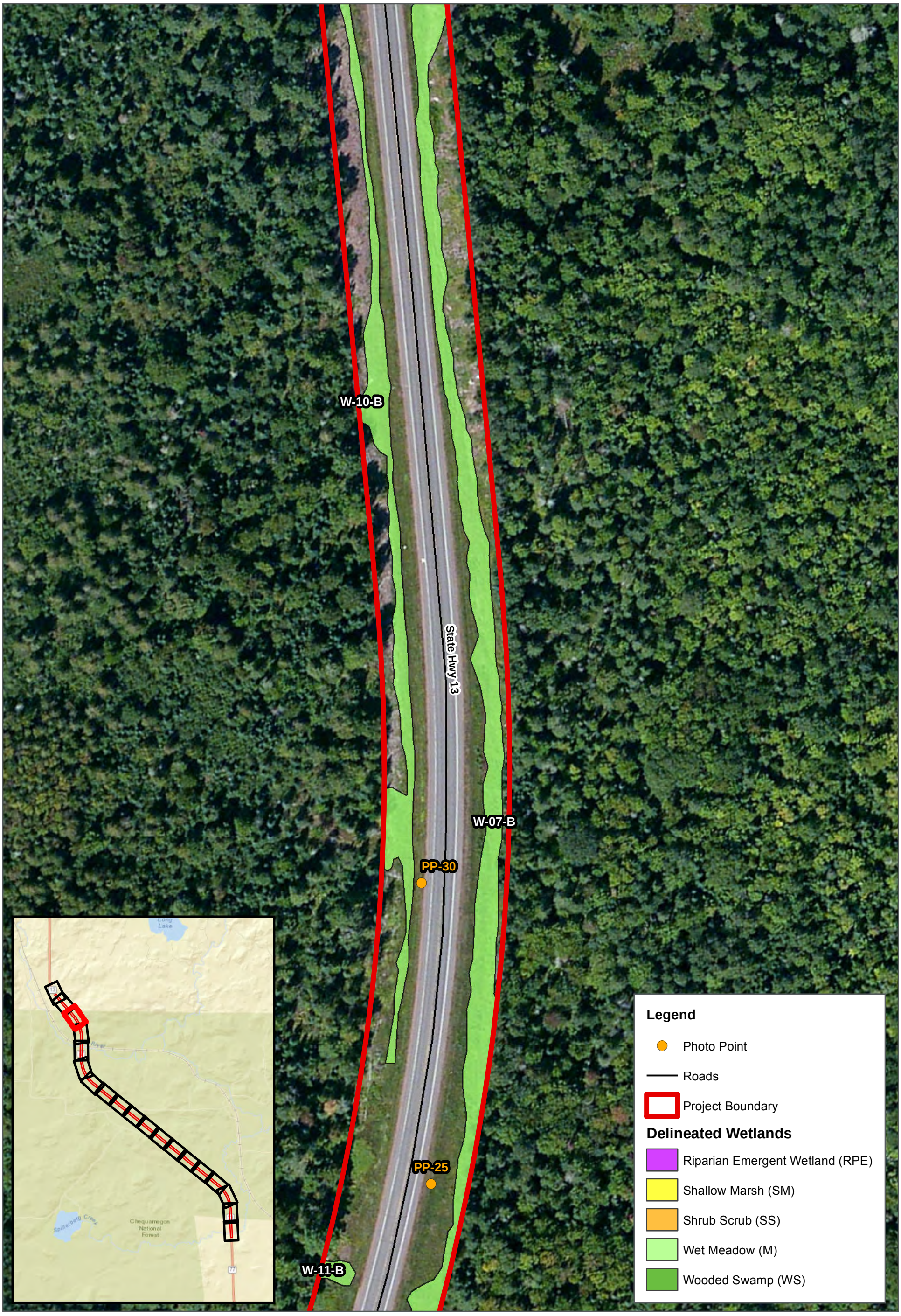
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

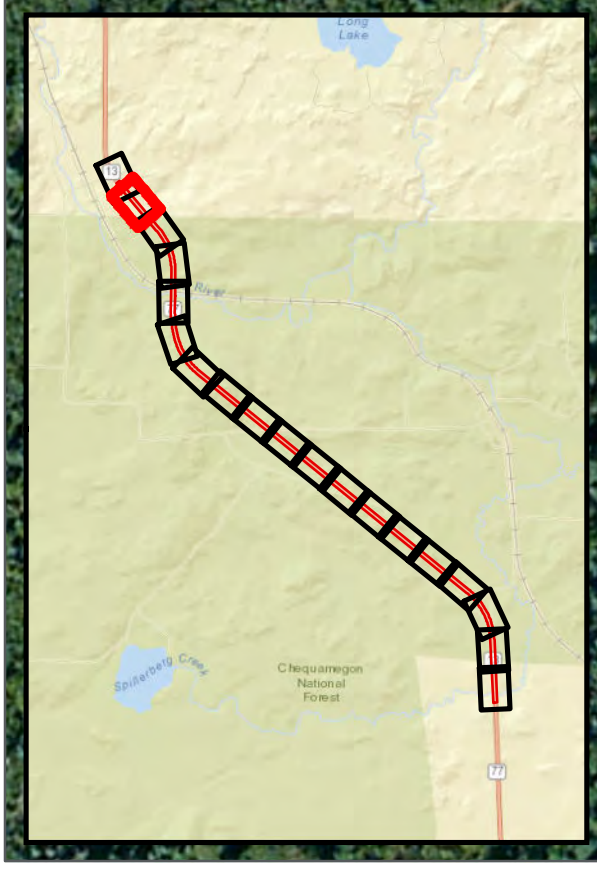
0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

DP-20-B
DP-19-B
Thim Rd
W-08-B
W-09-B
DP-21-B
PP-26
State Hwy 13
W-07-B
PP-29
W-10-B



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

Cayuga Rd

State Hwy 13

E Cayuga Rd

Thim Rd

W-06-B

PP-27

DP-17-B

PP-28

W-08-B

DP-20-B

DP-19-B

W-07-B

W-09-B



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/19/2016 Date Revised: 8/19/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

Wetland Delineation Report

STH 13 Cayuga Rd to Jefferson Ave

Cardno Project Number: J157001M17



Prepared for
Wisconsin Department of Transportation

August 29, 2016

Cardno
Shaping the Future

Contact Information

Cardno

6140 Cottonwood Drive, Suite A
Fitchburg, WI 53719

Telephone: 608-661-2955 (office)
Telephone: 608-260-5847 (cell)
Zachary.waechter@cardno.com
www.cardno.com

Author(s): 
Zachary Waechter
Senior Project Scientist

Approved By: 
Dan Salas
Senior Consultant

Document Information

Prepared for	Wisconsin Department of Transportation
Project Name	STH 13 Cayuga Rd to Jefferson Ave
File Reference	N/A
Job Reference	Cardno Project Number: J157001M17
Date	29 August 2016
Version Number	1.0
Effective Date	August 29, 2016
Date Approved:	September 12, 2016

Document History

Version	Effective Date	Description of Revision	Prepared by:	Reviewed by:
1.0	8/29/16	Wetland Delineation Report v1	Zach Waechter/Aaron Diehl	Dan Salas / Aaron Diehl

© Cardno. Copyright in the whole and every part of this document belongs to Cardno and may not be used, sold, transferred, copied or reproduced in whole or in part in any manner or form or in or on any media to any person other than by agreement with Cardno.

This document is produced by Cardno solely for the benefit and use by the client in accordance with the terms of the engagement. Cardno does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by any third party on the content of this document.

Table of Contents

1 Introduction 5

2 Methods 7

2.1 Background Information 7

2.1.1 USGS Topographical Map 7

2.1.2 Soil Survey 7

2.1.3 Mapped Wetlands 8

2.1.4 Current, Historic, and High-Resolution Aerial Imagery 8

2.2 Investigation Methodology 8

2.2.1 Site Photographs 8

2.2.2 Delineation Data Sheets 9

2.2.3 Survey of Wetland Boundary 9

2.3 Site-specific Agency Guidance and Prior Concurrence 9

3 Results and Discussion 10

3.1 Recent Climatic Conditions and Precipitation Data 10

3.2 General Site Conditions 10

3.3 Uplands 10

3.4 Wetlands 11

3.4.1 Wet Meadow (13.03 Acres, 66% of Project Area) 11

3.4.2 Wooded Swamp (2.28 Acres, 12% of Project Area) 11

3.4.3 Riparian Emergent Wetland (2.05 Acres, 10% of Project Area) 11

3.4.4 Shrub Scrub (1.37 Acres, 7% of Project Area) 11

3.4.5 Riparian Wooded Wetland (0.84 Acres, 4% of Project Area) 11

3.4.6 Shallow Marsh (0.08 Acres, Less than 1% of Project Area) 12

3.4.7 Naturally Problematic and Significant Disturbed Wetlands 12

3.5 Waterways 12

3.6 Other Water Resources Identified 13

4 Summary and Conclusion 14

5 Literature Cited 15

Figures

1. Project Location
2. Topographic Map
3. Mapped Soil Units
4. Wisconsin Wetland Inventory
5. Delineated Wetlands
6. Photo Points

Appendices

A. Site Photographs

B. Wetland Delineation Data Sheets – Northcentral Great Lakes Region

C. WisDOT Wetland Classification System

D. Summary of Delineated Wetlands

1 Introduction

Cardno was contracted to perform a wetland and waterway delineation within the State Highway (STH) 13 corridor from Cayuga Road to Jefferson Ave, approximately 100 feet from the centerline of both sides of the 5.5 miles highway corridor, located in Ashland County, WI. The Wisconsin Department of Transportation (WisDOT) is proposing work within the project area that has the potential for permitting which may require a wetland delineation. This project area and associated delineation boundary are depicted in Figures 1-6.

Based on field investigations conducted by Cardno on July 27 and July 28, 2016 and review of related resource maps, it is our professional opinion that 56 wetland complexes totalling 19.65 acres (855,950 sq. ft.) and 15 waterways exist within the project area.

It should be noted that the project area received an estimated 8-10" of rainfall over the night of July 11 – July 12. This resulted in significant flooding across parts of the region and many road closures, including the closure of STH 13.

This report outlines the wetland delineation investigation, methodology, and its findings as completed by Cardno staff. This report has been compiled by the following staff that are trained and experienced in delineation methodologies and applicable regulations:

- Zach Waechter – Senior Project Scientist – Project Manager; Lead Field Delineator: Zach has been working in the field of wetland ecology for over four years and hold Bachelors' of Science in Soil and Land Management and Resource Management from the University of Wisconsin-Stevens Point. As Senior Project Scientist, Zach conducts environmental surveys, including wetland delineation, site characterization, land cover classification, survey of the work area for environmental considerations, pre-construction threatened and endangered species surveys, invasive species mapping, and hydrologic survey of wetland mitigation sites, with an emphasis on utility (oil, electric, transportation) sectors. He writes reports for wetland delineations, wetland mitigation site monitoring, wetland mitigation site searches, and environmental impact statements.
- Jameson Loesch – Senior Staff Scientist – Lead Field Delineator: Jameson maintains a leading role as a GIS analyst, while also providing technical support for field work. He is responsible for the acquisition/creation, management and analysis of large datasets for both small and large multi-year projects, as well as the creation of maps and figures for many of Cardno's GIS projects. With nine years of experience in spatial data analysis, Jameson often works with project managers and clients to develop custom GIS tools, which help to standardize analysis and increase efficiency. Jameson conducts FSA Slide Reviews and also takes part in field botany efforts for wetland delineations, endangered species surveys, wetland mitigation bank monitoring, botanical inventories, as well as aid in the preparation of reports.
- Robb Roos – Senior Project Scientist – Lead Field Delineator: Robb Roos has been working in the field of wetland ecology and ecological restoration for ten years. He holds a Master of Science degree in Biology with an emphasis in Restoration Ecology from Grand Valley State University. Robb has been leading wetland delineation field teams for over three years with Cardno on projects throughout the Midwest. Robb has also completed WDNR and USACE-based wetland delineation trainings and is currently certified as a Wetland Professional in Training by the Society of Wetland Scientists. Currently, Robb leads wetland delineations, habitat surveys, mitigation projects, report writing, and project management.
- Will Taylor – Staff Scientist – Field Delineator: Will has been working in the field of wetland ecology and restoration for over three years and holds a Bachelor's of Science in Conservation Biology from the University of Wisconsin-Madison. He has conducted restoration and mitigation site monitoring for over three years. Currently, Will leads and assists with wetland delineations, habitat surveys, restoration projects, and report writing.

- Ken Carlson – Staff Scientist –Field Delineator: Ken Carlson has spent three years working in the field of wetland restoration and ecology with Cardno and the past two years participating in wetland delineations and surveys. He holds a Bachelor of Science degree in Environmental Policy and Planning/Environmental Science from the University of Wisconsin – Green Bay. Other related training includes completion of the WDNR and USACE basic wetland delineation training and NASECA erosion control inspection training courses. Currently, Ken's job responsibilities include assistance in wetland delineation, conducting field surveys for threatened/endangered species and habitat, permitting, construction oversight, and environmental project management for a variety of utility projects.
- Ryan Wnuk – Assistant Staff Scientist – Field Delineator: As an Assistant Staff Scientist, Ryan is responsible for environmental permitting, construction monitoring, habitat restoration and all associated field activities for projects in the oil, electric and transportation sectors. This includes performing natural area rare, threatened, and endangered species surveys, wetland delineations, and general project related environmental compliance oversight. Ryan also actively assists senior project managers with technical report writing, project management needs and GIS data interpretation, manipulation and management. Ryan holds Bachelor Degrees in Environmental Studies and Economics from the University of Wisconsin – Madison.
- Alex Cohen – GIS Technician – GIS Analyst: Alex has several years of experience in natural resource ecology, including field work, GIS analysis, cartography, and modelling. He holds an M.S. in Computational Ecology from Purdue University and a B.S. in Biology/Psychology from Calvin College. Currently, Alex provides GPS/GIS support, data analysis/statistical capabilities, programming expertise, aerial image analyses, and mapping services. He also performs endangered species surveys and assists in the field with wetland delineations and other surveys.

2 Methods

2.1 Background Information

Sources of information that were consulted to identify potential wetlands within the project area prior to field investigation are listed below:

- United States Geological Survey (USGS) Topographical Map (Figure 2)
- USDA-NRCS Web Soil Survey Database for Ashland County, Wisconsin (Figure 3)
- WDNR Wisconsin Wetlands Inventory (WWI) Mapping (Figure 4)
- ESRI Basemap 2015 Aerial Photograph (Figures 3-5), Google Earth Historic Aerial Imagery, and Pictometry High Resolution (low elevation, plane-flown) Imagery
- WDNR Surface Water Data Viewer

These maps identify potential wetlands and wetland soil units on the site. The sole use of any of these maps to make wetland determinations is not acceptable. Descriptions of findings from the review of this background information is provided in the subsections, below.

2.1.1 USGS Topographical Map

The USGS topographic map (Figure 2) shows entire project area is located along the southern portion of the road with undulating topography in the northern portions. Field reviewed local relief verified those findings mentioned above.

2.1.2 Soil Survey

The NRCS soil map of the project area (Figure 3) identified the 14 soil types outlined in Table 2-1, below.

Table 2-1 Mapped Soil Units within the Project Area

Symbol	Description	Hydric Soil Unit?	Acres within Project Area
2030	Udorthents and Udipsamments, cut or fill	No	4.98
5140A	**Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes**	**Yes**	**8.34**
5141A	**Lupton-Pleine-Cathro complex, 0 to 1 percent slopes**	**Yes**	**4.38**
5170A	**Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes**	**Yes**	**4.01**
5171B	Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony	No	29.22
5172B	Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes	No	1.18
5172C	Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes	No	34.00
5351C	Gogebic silt loam, 6 to 18 percent slopes, very stony, rocky	No	2.93
5351D	Gogebic silt loam, 18 to 35 percent slopes, very stony, rocky	No	1.21
5374A	**Bowstring-Arnheim complex, 0 to 1 percent slopes, frequently flooded**	**Yes**	**1.78**
670C	Keweenaw-Pence complex, 6 to 15 percent slopes, stony	No	5.34
809C	Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony	No	32.47
809D	Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony	No	8.84
917B	Annalake fine sandy loam, 2 to 6 percent slopes	No	4.77
		Total	143.45

2.1.3 Mapped Wetlands

The WWI map of the project area (Figure 4) identified the approximately 10.53 acres of wetlands outlined in the table below.

Table 2-2 Mapped WWI Features within the Project Area

WWI	Wetland Type	Acres within Project Area
PEMA	Freshwater Emergent Wetland	0.25
PEMC	Freshwater Emergent Wetland	1.31
PFO1/4Bg	Freshwater Forested/Shrub Wetland	0.10
PFO1Bg	Freshwater Forested/Shrub Wetland	1.29
PFO2/SS3Bg	Freshwater Forested/Shrub Wetland	2.40
PFO5Bg	Freshwater Forested/Shrub Wetland	1.05
PSS1Bg	Freshwater Forested/Shrub Wetland	4.13
	Total	10.53

2.1.4 Current, Historic, and High-Resolution Aerial Imagery

A 2015 aerial photograph, multiple years of historic imagery, and recent high-resolution imagery were reviewed in order to evaluate the property for possible wetland signatures. Based on this imagery, numerous potential wetland visual signatures (saturation, inundation, vegetation stress) were identified within the project area. All wetland signatures were field verified to determine if wetlands are present.

2.2 Investigation Methodology

The delineation of wetlands and other waters of the State were based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* Version 2.0 (Environmental Laboratory, 2012) as required by current policy.

Prior to the field work, the background information was reviewed to establish the probability and potential location of wetlands and waterways within the project area. Next, a general reconnaissance of the entire project area site was conducted to evaluate site conditions. On July 27, and July 28, 2016, the site was walked with the specific intent of determining wetland boundaries. Data points were sampled during this time at locations within and near the wetland areas to document soil characteristics, evidence of hydrology and dominant vegetation. Soils were examined to a depth of at least 24 inches (unless fill was encountered) to assess soil characteristics, site hydrology, and comparison to known NRCS hydric soil indicators. Complete descriptions of typical soil series can be found in the soil survey for this county.

Vegetative community boundaries were identified, mapped, and either a representative Data Point or notes on hydrology and dominant vegetation were taken within each of their limits. These community types are differentiated by color codes on the Delineated Wetlands and Waterways Figure (Figure 1).

Delineation in the field only occurred within the original project boundary (project area) provided to Cardno. This project area is depicted on all Figures that accompany this report.

2.2.1 Site Photographs

Photographs of data point, waterway, and general photo point locations are located in Appendix A. These photographs are the visual documentation of site conditions at the time of inspection. The photographs are intended to provide representative visual samples of any wetlands or other special features found on the site. Photo naming refers to labels identified on Figure 5 Delineated Wetland and Figure 6 Photo Points.

- DP = Data Point (includes photos of these areas)
- PP = Photo Point only
- S = Stream
- W = Wetland

2.2.2 Delineation Data Sheets

The Northcentral Great Lakes Region routine wetland delineation data sheets used in the wetland delineation process are located in Appendix B. These forms are the written documentation of how representative sample stations meet or do not meet each of the wetland criteria. Plant species nomenclature follows the 2016 National Wetland Plant List (Lichvar et al., 2016). Soils were identified using the methods outlined in the USDA NRCS Field Indicators of Hydric Soils in the United States, Version 7.0 (USDA-NRCS 2010).

2.2.3 Survey of Wetland Boundary

The wetland delineation map (Figure 5) reflects the wetland boundaries described below.

Cardno GPS surveyed all data point locations and wetland boundary locations. The field data collection settings, within GPS units, use available satellites, including two DGPS (Differential Global Positioning System) satellites, to capture location data. Using the WAAS (Wide Area Augmentation System), satellite readings provide sub-meter accuracy on data point locations and wetland boundaries (generally within 1-2 feet). Cardno's GPS units acquire multiple readings per data point to increase accuracy.

Please note that while Cardno's GPS survey provides reasonably accurate spatial information regarding the wetlands delineated, it does not constitute the same accuracy as a professional land survey. The St. Paul District USACE and WDNR may require an official survey be completed by a Professional Land Surveyor or Professional Engineer in order to verify the delineation boundaries for impact and regulatory purposes.

2.3 Site-specific Agency Guidance and Prior Concurrence

There is no knowledge of previous wetland delineation mapping at this site.

3 Results and Discussion

3.1 Recent Climatic Conditions and Precipitation Data

Recent precipitation data was compared with historic precipitation data from a 30-year dataset (1971-2000) from a nearby weather station (Hurley, WI3800) to determine if normal hydrologic and climatic conditions were present on-site during the delineation. When compared to the WETS Station data, the observed precipitation data from three months prior to the delineation indicated wet precipitation conditions at the time of the delineation on July 27 and July 28, 2016. The antecedent hydrologic condition analysis is provided below:

		Long-term rainfall records							
	Month	3 yrs. In 10 less than	normal	3 yrs. In 10 more than	Actual Rainfall	Condition: Wet, Normal, Dry	Condition Value	Month Weight Value	Product of previous 2 columns
3rd Prior Month	April	1.56	2.08	2.43	3.3	Wet	3	1	3
2nd Prior Month	May	2.27	2.99	3.48	3.68	Wet	3	2	6
1st Prior Month	June	3.20	3.88	4.39	6.02	Wet	3	3	9
								Sum	18
								Antecedent Precipitation Conditions	Wet

NOTE: if sum is:		Condition Values:	
6 to 9	then prior period has been drier than normal	Dry	1
10 to 14	then prior period has been normal	Normal	2
15 to 18	then prior period has been wetter than normal	Wet	3

WETS Table Monthly Rainfall — WEATHER STATION LOCATION HURLEY, WI3800

3.2 General Site Conditions

Based on this field investigation, and review of related resource maps, it is our professional opinion that 56 wetland complexes totalling 19.65 acres (855,950 sq. ft.) and 15 waterways exist within the project area (Figure 5). Descriptions of the wetlands and waterways identified are located in Sections 3.4 and 3.5, below.

It should be noted that the project area received an estimated 8-10” of rainfall over the night of July 11 – July 12. This resulted in significant flooding across parts of the region and many road closures, including the closure of STH 13.

3.3 Uplands

Most of the upland within the Project Area consist of roadside clearings within forested areas. Vegetation along roadsides often include smooth brome (*Bromus inermis*, FACU), Kentucky bluegrass (*Poa pratensis*, FAC), bracken fern (*Pteridium aquilinum*, FACU) and a variety of weedy forb species. The forested areas adjacent to the Project area included both deciduous coniferous trees, including sugar maple (*Acer saccharum*, FACU), quaking aspen (*Populus tremuloides*, FAC), white spruce (*Picea glauca*, FACU), and balsam fir (*Abies balsamea*, FAC). In most cases, indicators of hydric soil and/or wetland hydrology were not observed within the upland areas.

3.4 Wetlands

In the entire project area, a total of 56 wetland complexes were identified within the survey area. Appendix D summarizes the wetland data collected within the Project Area. The full wetland delineation data sheets area included as Appendix B.

Appendix D summarizes the wetland community types identified within the Project Area. Within the table a description of the observed hydric soil, and hydrologic indictors, plant species, and wetland community type(s), based upon the WisDOT Wetland Classification (Appendix C), within the wetland complex, and associated data point. The data point listed on the table correlates to the data forms contained in Appendix B. In addition to the table, general descriptions of the wetland plant communities mapped on Figure 5 (according to the WisDOT Wetland Classification, Appendix C) are described below.

3.4.1 Wet Meadow (13.03 Acres, 66% of Project Area)

Approximately 13.03 acres of the Fresh (Wet) Meadow Community was identified within the Project Area. This was the most abundant wetland type which comprised 66% of the total wetlands identified. While several of the Fresh (Wet) Meadow communities in the Project Area were dominated by Reed Canary Grass (*Phalaris arundinacea*, FACW), most of these wetlands contained native plant communities. Frequently observed species include Sedge species (*Carex spp*.), Canada Bluejoint (*Calamagrostis canadensis*, OBL), Rushes (*Juncus effusus* and *Juncus canadensis*, OBL), Green Bulrush (*Scirpus atrovirens*), and Giant Goldenrod (*Solidago gigantea*).

3.4.2 Wooded Swamp (2.28 Acres, 12% of Project Area)

Approximately 2.28 acres of the Wooded Swamp Community was identified within the Project Area. This was the second most abundant wetland type which comprised about 12% of the total wetlands identified. The areas of wooded swamp were included a variety of trees, including Balsam Fir (*Abies balsamea*, FAC), Quaking Aspen (*Populus tremuloides*, FAC), Black Ash (*Fraxinus nigra*, FACW)**,** Red Maple (*Acer rubrum*, FAC), American Elm (*Ulmus americana*, FACW), and Balsam Popular (*Populus balsamifera*, FACW). Herbaceous vegetation included Canada Bluejoint (*Calamagrostis canadensis*, OBL), Manna Grass (*Glyceria canadensis*, OBL), and Sedges (*Carex spp*.).

3.4.3 Riparian Emergent Wetland (2.05 Acres, 10% of Project Area)

Approximately 2.05 acres of the Riparian Wetland (emergent) Community was identified within the Project Area. This was the third most abundant wetland type which comprised approximately 10% of the total wetlands identified. This area generally consisted of Canada Bluejoint (*Calamagrostis canadensis*, OBL) and Reed Canary Grass (*Phalaris arundinacea*, FACW) with patches of Common Rush (*Juncus effusus*) and sedges (*Carex spp*., FACW).

3.4.4 Shrub Scrub (1.37 Acres, 7% of Project Area)

Approximately 1.37 acres of the Shrub Scrub Community was identified within the Project Area. This was the fourth most abundant wetland type which comprised approximately 7% of the total wetlands identified. This wetland type was typically dominated by Speckled Alder (*Alnus incana*, FACW), and Dogwood (*Cornus spp*., FACW) intermixed with patches of Quaking Aspen (*Populus tremuloides*, FAC). Herbaceous species include Canada Bluejoint (*Calamagrostis canadensis*, OBL), Reed Canary Grass (*Phalaris arundinacea*, FACW), Sensitive Fern (*Onoclea sensibilis*, FACW), and sedge species (*Carex spp*.).

3.4.5 Riparian Wooded Wetland (0.84 Acres, 4% of Project Area)

Approximately 0.84 acres of the Riparian Wooded Wetland Community was identified within the Project Area. This was the fifth most abundant wetland type which comprised approximately 4% of the total wetlands identified. This area was generally dominated by Balsam Fir (*Abies balsamea*, FAC) and Black

Ash (*Fraxinus nigra*, FACW) with areas of Speckled Alder (*Alnus incana*, FACW) Jewelweed (*Impatiens capensis,* FACW) and Sedges (*Carex spp*., FACW).

3.4.6 Shallow Marsh (0.08 Acres, Less than 1% of Project Area)

Approximately 0.08 acres of the Shallow Marsh Community was identified within the Project Area. This was the least abundant wetland type which comprised approximately less than 1% of the total wetlands identified. This wetland community was dominated by Broadleaf Arrowhead (*Sagittaria latifolia*, OBL) and (*Calamagrostis canadensis*, OBL). Standing water was observed in this wetland community

3.4.7 Naturally Problematic and Significant Disturbed Wetlands

No areas of naturally problematic wetlands were noted. Significantly disturbed wetlands did occur within the Project Area and were noted on their respective wetland determination data forms. Significantly disturbed soils were observed where fill material from the existing road grade was present. Significantly disturbed vegetation was observed where the road right-of-way had been mowed. In both cases Cardno used their best professional judgment and the use of the resources mentioned in the methods section, above, to determine the wetland boundary.

3.5 Waterways

Cardno determined that 15 waterways exist within the existing project area. A summary of the delineated waterways is contained in Table 3-1. Representative photographs of waterways are provided in Appendix A.

Table 3-1 Delineated Waterways within the Project Area

Stream ID	Waterway Name/Connecting Waterbody	OHWM Width (feet)	Substrate
S-01	Unnamed	20	Mud/Silt
S-02	Unnamed	4	Gravel
S-03	Happy Creek	15	Mud/Silt
S-04	Unnamed	3	Mud/Silt
S-05	Unnamed	5-20	Mud/Silt
S-06	Unnamed	2-12	Mud/Silt
S-07	Unnamed	2.5	Mud/Silt
S-08	Unnamed	1	Mud/Silt
S-09	Tafelski Creek	6	Mud/Silt
S-10	Unnamed	4	Sand
S-11	Unnamed	9	Mud/Silt
S-12	Unnamed	5	Gravel
S-13	Unnamed	4	Mud/Silt
S-14	Unnamed	15	Boulder
S-15	Unnamed	3	Mud/Silt

3.6 Other Water Resources Identified

No other water resources were identified within the project area. No known stormwater features were identified within close proximity to the project area based on background information review.

There is no known previous wetland delineation mapping of the project area.

4 Summary and Conclusion

Cardno was contracted by WisDOT to perform a wetland and waterway delineation within the State Highway (STH) 13 corridor from Cayuga Road to Jefferson Avenue, approximately 100’ from the centerline of both sides of the 5.5 miles long highway corridor, located in Ashland County, WI.

Based on field investigations conducted by Cardno on July 27, and July 28, 2016 and review of related resource maps, it is our professional opinion that 56 wetland complexes totalling 19.65 acres (855,950 sq. ft.) and 15 waterways exist within the project area. This report represents our best professional judgment based on our knowledge and experience.

The wetlands identified for this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers, state regulation under the jurisdiction of Wisconsin DNR, and local jurisdiction under the county, town, city or village.

5 Literature Cited

Environmental Laboratory. 1987. *U.S. Army Corps of Engineers' Wetland Delineation Manual*, Technical Report Y-87-1, U.S. Waterways Experiment Station, Vicksburg, MS.

Environmental Laboratory. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (version 2.0)*, ERDC/EL TR-12-01, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List:* 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X. http://www.phytoneuron.net/

United States Department of Agriculture, Natural Resource Conservation Service (NRCS). Web Soil Survey. *Soil Survey of Ashland County, WI*. Accessed April 2016.

USDA Field Office Climate Data. http://agacis.rcc-acis.org/55051/mtot. Accessed July 2016.

USDA-NRCS. 2010. Field Indicators of Hydric Soils in the United States. A Guide for Identifying and Delineating Hydric Soils, Version 7.0. Edited by L.M. Vasilas, G.W. Hurt, and C.V. Noble.

STH 13 Cayuga Road to Jefferson Ave

APPENDIX A

SITE PHOTOGRAPHS



Photograph DP-01-A: Representative photograph facing South.



Photograph DP-01-B: Representative photograph facing West.



Photograph DP-02-A: Representative photograph facing North.



Photograph DP-02-B: Representative photograph facing North.



Photograph DP-03-A: Representative photograph facing South.



Photograph DP-04-A: Representative photograph facing West.



Photograph DP-04-B: Representative photograph facing North.



Photograph DP-05-A: Representative photograph facing North.



Photograph DP-05-B: Representative photograph facing North.



Photograph DP-06-A: Representative photograph facing Southwest.



Photograph DP-06-B: Representative photograph facing West.



Photograph DP-07-A: Representative photograph facing Northeast.



Photograph DP-07-B: Representative photograph facing West.



Photograph DP-08-A: Representative photograph facing Northeast.



Photograph DP-08-B: Representative photograph facing South.



Photograph DP-09-A: Representative photograph facing Southeast.



Photograph DP-09-B: Representative photograph facing East.



Photograph DP-10-A: Representative photograph facing South.



Photograph DP-10-B: Representative photograph facing North.



Photograph DP-11-A: Representative photograph facing South.



Photograph DP-11-B: Representative photograph facing West.



Photograph DP-12-A: Representative photograph facing Southwest.



Photograph DP-12-B: Representative photograph facing East.



Photograph DP-13-A: Representative photograph facing Northeast.



Photograph DP-13-B: Representative photograph facing Northeast.



Photograph DP-14-A: Representative photograph facing East.



Photograph DP-14-B: Representative photograph facing North.



Photograph DP-15-A: Representative photograph facing Southwest.



Photograph DP-15-B: Representative photograph facing North.



Photograph DP-16-A: Representative photograph facing South.



Photograph DP-16-B: Representative photograph facing East.



Photograph DP-17-A: Representative photograph facing Southwest.



Photograph DP-17-B: Representative photograph facing South.



Photograph DP-18-A: Representative photograph facing Southwest.



Photograph DP-18-B: Representative photograph facing North.



Photograph DP-19-A: Representative photograph facing West.



Photograph DP-19-B: Representative photograph facing North.



Photograph DP-20-A: Representative photograph facing South.



Photograph DP-20-B: Representative photograph facing North.



Photograph DP-21-A: Representative photograph facing South.



Photograph DP-21-B: Representative photograph facing North.



Photograph DP-22-A: Representative photograph facing Northeast.



Photograph DP-22-B: Representative photograph facing North.



Photograph DP-23-A: Representative photograph facing South.



Photograph DP-23-B: Representative photograph facing North.



Photograph DP-24-B: Representative photograph facing North.



Photograph DP-25-A: Representative photograph facing South.



Photograph DP-25-B: Representative photograph facing East.



Photograph DP-26-A: Representative photograph facing North.



Photograph DP-26-B: Representative photograph facing East.



Photograph DP-27-A: Representative photograph facing North.



Photograph DP-27-B: Representative photograph facing North.



Photograph DP-28-A: Representative photograph facing North.



Photograph DP-28-B: Representative photograph facing North.



Photograph DP-29-A: Representative photograph facing North.



Photograph DP-29-B: Representative photograph facing North.



Photograph DP-30-B: Representative photograph facing East.



Photograph PDP-31-A: Representative photograph facing Southeast.



Photograph DP-31-B: Representative photograph facing North.



Photograph DP-32-A: Representative photograph facing North.



Photograph DP-32-B: Representative photograph facing West.



Photograph DP-33-A: Representative photograph facing South.



Photograph DP-33-B: Representative photograph facing East.



Photograph DP-34-A: Representative photograph facing South.



Photograph DP-34-B: Representative photograph facing North.



Photograph DP-35-A: Representative photograph facing North.



Photograph DP-35-B: Representative photograph facing North.



Photograph DP-36-A: Representative photograph facing South.



Photograph DP-33-B: Representative photograph facing North.



Photograph DP-37-A: Representative photograph facing South.



Photograph DP-37-B: Representative photograph facing East.



Photograph DP-38-A: Representative photograph facing South.



Photograph DP-38-B: Representative photograph facing North.



Photograph DP-39-A: Representative photograph facing West.



Photograph DP-39-B: Representative photograph facing North.



Photograph DP-40-A: Representative photograph facing South.



Photograph DP-40-B: Representative photograph facing South.



Photograph DP-41-A: Representative photograph facing West.



Photograph DP-41-B: Representative photograph facing East.



Photograph DP-42-A: Representative photograph facing West.



Photograph DP-42-B: Representative photograph facing East.



Photograph DP-43-A: Representative photograph facing West.



Photograph DP-43-B: Representative photograph facing North.



Photograph DP-44-A: Representative photograph facing West.



Photograph DP-44-B: Representative photograph facing North.



Photograph DP-45-A: Representative photograph facing South.



Photograph DP-45-B: Representative photograph facing North.



Photograph DP-46-A: Representative photograph facing South.



Photograph DP-46-B: Representative photograph facing North.



Photograph DP-47-A: Representative photograph facing South.



Photograph DP-47-B: Representative photograph facing Southeast.



Photograph DP-48-A: Representative photograph facing West.



Photograph DP-48-B: Representative photograph facing Northeast.



Photograph DP-49-A: Representative photograph facing South.



Photograph DP-49-B: Representative photograph facing North.



Photograph DP-50-A: Representative photograph facing West.



Photograph DP-50-B: Representative photograph facing South.



Photograph DP-51A: Representative photograph facing South.



Photograph DP-51-B: Representative photograph facing South.



Photograph DP-52-A: Representative photograph facing West.



Photograph DP-52-B: Representative photograph facing West.



Photograph DP-53-A: Representative photograph facing North.



Photograph DP-53-B: Representative photograph facing Southeast.



Photograph DP-54-A: Representative photograph facing West.



Photograph DP-54-B: Representative photograph facing Northeast.



Photograph DP-55-A: Representative photograph facing Northwest.



Photograph DP-55-B: Representative photograph facing Northeast.



Photograph DP-56-A: Representative photograph facing West.



Photograph DP-56-B: Representative photograph facing Northeast.



Photograph DP-57-A: Representative photograph facing South.



Photograph DP-57-B: Representative photograph facing East.



Photograph DP-58-A: Representative photograph facing South.



Photograph DP-58-B: Representative photograph facing Southwest.



Photograph DP-59-A: Representative photograph facing North.



Photograph DP-59-B: Representative photograph facing Northeast.



Photograph DP-60-A: Representative photograph facing West.



Photograph DP-60-B: Representative photograph facing Northwest.



Photograph WP-61-A: Representative photograph facing South.



Photograph DP-61-B: Representative photograph facing south.



Photograph DP-62-A: Representative photograph facing East.



Photograph DP-62-B: Representative photograph facing Southwest.



Photograph DP-63-A: Representative photograph facing East.



Photograph DP-63-B: Representative photograph facing North.



Photograph DP-64-A: Representative photograph facing North.



Photograph DP-64-B: Representative photograph facing North.



Photograph DP-65-A: Representative photograph facing North.



Photograph DP-65-B: Representative photograph facing North.



Photograph DP-66-A: Representative photograph facing North.



Photograph DP-66-B: Representative photograph facing North.



Photograph DP-67-A: Representative photograph facing North.



Photograph DP-67-B: Representative photograph facing Southwest.



Photograph DP-68-A: Representative photograph facing North.



Photograph DP-68-B: Representative photograph facing Southwest.



Photograph DP-69-A: Representative photograph facing South.



Photograph DP-70-A: Representative photograph facing West.



Photograph DP-71-A: Representative photograph facing Northwest.



Photograph DP-72-A: Representative photograph facing North.

Photograph DP-68-A: Representative photograph facing North.



Photograph PP-01: W-01-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-02: W-01-B; Shrub Scrub; Representative photograph facing Northeast.



Photograph PP-03: W-02-B; Wet Meadow; Representative photograph facing North.



Photograph PP-04: W-02-B; Shrub Scrub; Representative photograph facing Northwest.



Photograph PP-05: W-03-B; Wet Meadow; Representative photograph facing South.



Photograph PP-06: W-03-B; Wooded Swamp; Representative photograph facing East.



Photograph PP-07: W-04-B; Wet Meadow; Representative photograph facing North.



Photograph PP-08: W-04-B; Wooded Swamp; Representative photograph facing East.



Photograph PP-09: W-04-B; Shallow Marsh; Representative photograph facing North.



Photograph PP-10: W-05-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-11: W-05-B; Wooded Swamp; Representative photograph facing Southeast.



Photograph PP-12: W-06-B; Wet Meadow; Representative photograph facing East.



Photograph PP-13: W-07-B; Riparian Emergent Wetland; Representative photograph facing Northeast.



Photograph PP-14: W-08-B; Wet Meadow; Representative photograph facing East.



Photograph PP-15: W-09-B; Wet Meadow; Representative photograph facing North.



Photograph PP-16: W-10-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-17: W-11-B; Wet Meadow; Representative photograph facing North.



Photograph PP-18: W-12-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-19: W-12-B; Wooded Swamp; Representative photograph facing Northeast.



Photograph PP-20: W-13-B; Riparian Wooded Wetland; Representative photograph facing Northeast.



Photograph PP-21: W-14-B; Riparian Emergent Wetland; Representative photograph facing Northeast.



Photograph PP-22: W-16-B; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-23: W-15-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-24: W-17-B; Wooded Swamp; Representative photograph facing Northeast.



Photograph PP-25: W-17-B; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-26: W-18-B; Wet Meadow; Representative photograph facing Southeast.



Photograph PP-27: W-19-B; Wet Meadow; Representative photograph facing North.



Photograph PP-28: W-19-B; Wooded Swamp; Representative photograph facing Northeast.



Photograph PP-29: W-20-B; Wet Meadow; Representative photograph facing East.



Photograph PP-30: W-21-B; Wet Meadow; Representative photograph facing South.



Photograph PP-31: W-21-B; Wooded Swamp; Representative photograph facing Southeast.



Photograph PP-32: W-22-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-33: W-23-B; Riparian Emergent Wetland; Representative photograph facing South.



Photograph PP-34: W-23-B; Riparian Wooded Wetland; Representative photograph facing South.



Photograph PP-35: W-24-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-36: W-24-B; Shrub Scrub; Representative photograph facing Southeast.



Photograph PP-37: W-25-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-38: W-26-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-39: W-27-B; Shrub Scrub; Representative photograph facing Southeast.



Photograph PP-40: W-27-B; Wet Meadow; Representative photograph facing Northeast.



Photograph PP-41: W-01-A; Wooded Swamp; Representative photograph facing Northwest.



Photograph PP-42: W-01-A; Wet Meadow; Representative photograph facing South.



Photograph PP-43: W-01-A; Wooded Swamp; Representative photograph facing West.



Photograph PP-44: W-02-A; Wet Meadow and Stream; Representative photograph facing South.



Photograph PP-45: W-03-A; Wet Meadow; Representative photograph facing West.



Photograph PP-46: W-04-A; Riparian Emergent Wetland; Representative photograph facing Southwest.



Photograph PP-47: W-05-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-48: W-06-A; Wet Meadow; Representative photograph facing West.



Photograph PP-49: W-07-A; Wooded Swamp; Representative photograph facing West.



Photograph PP-50: W-07-A; Wet Meadow; Representative photograph facing West.



Photograph PP-51: W-08-A; Wooded Swamp; Representative photograph facing Southwest.



Photograph PP-52: W-08-A; Shrub Scrub; Representative photograph facing West.



Photograph PP-53: W-08-A; Wet Meadow; Representative photograph facing West.



Photograph PP-54: W-09-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-55: W-10-A; Riparian Wooded Wetland; Representative photograph facing Southwest.



Photograph PP-56: W-11-A; Wet Meadow; Representative photograph facing West.



Photograph PP-57: W-12-A; Wet Meadow; Representative photograph facing West.



Photograph PP-58: W-13-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-59: W-13-A; Shrub Scrub; Representative photograph facing Southwest.



Photograph PP-60: W-14-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-61: W-14-A; Shrub Scrub; Representative photograph facing West.



Photograph PP-62: W-15-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-63: W-15-A; Shrub Scrub; Representative photograph facing West.



Photograph PP-64: W-16-A; Wooded Swamp; Representative photograph facing Southwest.



Photograph PP-65: W-16-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-66: W-16-A; Shrub Scrub; Representative photograph facing Southwest.



Photograph PP-67: W-17-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-68: W-18-A; Wooded Swamp; Representative photograph facing Southwest.



Photograph PP-69: W-18-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-70: W-19-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-71: W-20-A; Riparian Emergent Wetland; Representative photograph facing Northwest.



Photograph PP-72: W-21-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-73: W-22-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-74: W-23-A; Wet Meadow; Representative photograph facing Southwest.



Photograph PP-75: W-24-A; Shrub Scrub; Representative photograph facing Southwest.



Photograph PP-76: W-24-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-77: W-25-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-78: W-25-A; Wooded Swamp; Representative photograph facing North.



Photograph PP-79: W-26-A; Wooded Swamp; Representative photograph facing Northwest.



Photograph PP-80: W-26-A; Wet Meadow; Representative photograph facing North.



Photograph PP-81: W-27-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-82: W-28-A; Wet Meadow; Representative photograph facing Northwest.



Photograph PP-83: W-29-A; Wet Meadow; Representative photograph facing Northwest.



Photograph S-01-P01: Representative photograph facing Northeast.



Photograph S-01-P02: Representative photograph facing West.



Photograph S-02-P01: Representative photograph facing South.



Photograph S-02-P02: Representative photograph facing North.



Photograph S-03-P01: Representative photograph facing West.



Photograph S-03-P02: Representative photograph facing Southwest.



Photograph S-05-P01: Representative photograph facing North.



Photograph S-06-P01: Representative photograph facing West.



Photograph S-06-P02: Representative photograph facing West.



Photograph S-07-P01: Representative photograph facing East.



Photograph S-07-P02: Representative photograph facing West.



Photograph S-08-P01: Representative photograph facing Southwest.



Photograph S-09-P01: Representative photograph facing Southeast.



Photograph S-09-P02: Representative photograph facing West.



Photograph S-10-P01: Representative photograph facing Northeast.



Photograph S-11-P01: Representative photograph facing South.



Photograph S-11-P02: Representative photograph facing East.



Photograph S-12-P01: Representative photograph facing West.



Photograph S-13-P01: Representative photograph facing North.



Photograph S-14-P01: Representative photograph facing West.



Photograph S-15-P01: Representative photograph facing East.

STH 13 Cayuga Road to Jefferson Ave

APPENDIX B

WETLAND DETERMINATION DATA SHEETS

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-01-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.320140 Long: -90.661103 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-01-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix interior*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Agrostis gigantea*	25	Yes	FACW
2. *Poa pratensis*	20	Yes	FACU
3. *Solidago gigantea*	15	Yes	FACW
4. *Lotus corniculatus*	5	No	FACU
5. *Melilotus officinalis*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	55	x 2 =	110
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	85 (A)		230 (B)
Prevalence Index = B/A =			2.71

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-01-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sand	
4-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Delineation (Cayuga to Jefferson) City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-01-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.246112 Long: -90.678969 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	14"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-01-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago gigantea*	40	Yes	FACW
2. *Fragaria virginiana*	15	Yes	FACU
3. *Apocynum androsaemifolium*	15	Yes	UPL
4. *Thalictrum dasycarpum*	5	No	FACW
5. *Rubus idaeus*	5	No	FAC
6. *Populus tremuloides*	2	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	82	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	7	x 3 =	21
FACU species	15	x 4 =	60
UPL species	15	x 5 =	75
Column Totals:	82 (A)		246 (B)
Prevalence Index = B/A =			3.00

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-01-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Silt Loam	
6-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-02-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.320084 Long: -90.661174 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	8"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-02-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	40	Yes	OBL
2. *Calamagrostis canadensis*	30	Yes	OBL
3. *Onoclea sensibilis*	15	No	FACW
4. *Solidago gigantea*	10	No	FACW
5. *Symphyotrichum novae-angliae*	10	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	105	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		140 (B)
Prevalence Index = B/A =			1.33

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-02-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	90	7.5YR 4/6	10	C	M	andy Clay Loa	Gravely
6-20"	7.5YR 3/3	100					andy Clay Loa	
20-30"	10YR 2/1	100					Peat	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Delineation (Cayuga to Jefferson) City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-02-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.246179 Long: -90.679036 Datum: NAD83

Soil Map Unit Name: 5172B - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 6 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	3"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-02-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Solidago gigantea*	10	Yes	FACW
3. *Carex lacustris*	10	Yes	OBL
4. *Juncus effusus*	10	Yes	OBL
5. *Persicaria sagittata*	5	No	OBL
6. *Alnus incana*	5	No	FACW
7. *Eutrochium purpureum*	5	No	FAC
8. *Euthamia graminifolia*	5	No	FAC
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	55	x 2 =	110
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		165 (B)
Prevalence Index = B/A =			1.83

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-02-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-24"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-03-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.320001 Long: -90.661408 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-03-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix interior*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Agrostis gigantea*	25	Yes	FACW
2. *Calamagrostis canadensis*	20	Yes	OBL
3. *Solidago gigantea*	15	Yes	FACW
4. *Lotus corniculatus*	5	No	FACU
5. *Melilotus alba*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	55	x 2 =	110
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	5	x 5 =	25
Column Totals:	85 (A)		175 (B)
Prevalence Index = B/A =			2.06

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-03-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sand	
4-24"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-03-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.247706 Long: -90.679444 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-03-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix petiolaris*	40	Yes	FACW
2. *Spiraea alba*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
	45	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	60	Yes	FACW
2. *Glyceria grandis*	15	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	105	x 2 =	210
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	120 (A)		225 (B)
Prevalence Index = B/A =			1.88

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-03-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-04-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.320328 Long: -90.661232 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 6"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-04-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	30	Yes	FAC
2. *Populus tremuloides*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Abies balsamea*	20	Yes	FAC
2. *Populus tremuloides*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	5	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	5	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		245 (B)
Prevalence Index = B/A =			2.88

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-04-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	10YR 2/1	100					Muck	
18-24"	10YR 2/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-04-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 8% Lat: 46.249632 Long: -90.679679 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PFO1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-04-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	30	Yes	OBL
2. *Fragaria virginiana*	15	Yes	FACU
3. *Rubus pubescens*	10	No	FACW
4. *Achillea millefolium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	60 (A)		130 (B)
Prevalence Index = B/A =			2.17

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-04-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 3/2	100					Loamy Sand	
18-24"	7.5YR 4/3	98	7.5YR 5/6	2	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-05-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.311608 Long: -90.669914 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	8"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-05-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	15	Yes	
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	65	Yes	FACU
2. *Eurybia macrophylla*	15	No	UPL
3. *Achillea millefolium*	5	No	FACU
4. *Lotus corniculatus*	5	No	FACU
5. *Fragaria virginiana*	5	No	FACU
6. *Plantago lanceolata*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	15	x 5 =	75
Column Totals:	100 (A)		415 (B)
Prevalence Index = B/A =			4.15

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-05-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy Loam	
5-24"	7.5YR 3/3	90	7.5YR 4/6	10	C	M	Sandy Clay Loam	
24-36"	7.5YR 3/1	85	7.5YR 4/6	15	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-05-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.249656 Long: -90.679596 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PFO1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-05-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	20	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	65	Yes	OBL
2. *Euthamia graminifolia*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	20	x 2 =	40
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		135 (B)
Prevalence Index = B/A =			1.42

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes x No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-05-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-06-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 7, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.311654 Long: -90.669924 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): >16"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-06-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	70	Yes	OBL
2. *Poa palustris*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		80 (B)
Prevalence Index = B/A =			1.07

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-06-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Loamy Sand	
4-20"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-06-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.249572 Long: -90.679450 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PFO1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X Surface Water (A1)	X Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)
X High Water Table (A2)	____ Aquatic Fauna (B13)	____ Drainage Patterns (B10)
X Saturation (A3)	____ Marl Deposits (B15)	____ Moss Trim Lines (B16)
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Dry-Season Water Table (C2)
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	____ Crayfish Burrows (C8)
X Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	____ Saturation Visible on Aerial Imagery (C9)
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Stunted or Stressed Plants (D1)
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	X Geomorphic Position (D2)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
____ Sparsely Vegetated Concave Surface (B8)		____ Microtopograpic Relief (D4)
		X FAC-Neutral Test (D5)

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	5"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-06-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Cornus racemosa*	45	Yes	FAC
2. *Alnus incana*	45	Yes	FACW
3. *Salix petiolaris*	5	No	FACW
4. *Spiraea alba*	2	No	FACW
5. *Cornus alba*	2	No	FACW
6.			
7.			
	99	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	25	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	54	x 2 =	108
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	124 (A)		268 (B)
Prevalence Index = B/A =			2.16

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-06-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"							Peat	
20-36"	10YR 3/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-07-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.303938 Long: -90.678146 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No X	Depth (inches): >16"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-07-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Scirpus atrovirens*	5	No	OBL
3. *Equisetum arvense*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		60 (B)
Prevalence Index = B/A =			1.20

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-07-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	7.5YR 3/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
12-24"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-07-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.251967 Long: -90.679620 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	10"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-07-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	70	Yes	FACU
2. *Eurybia macrophylla*	60	Yes	UPL
3. *Poa pratensis*	10	No	FACU
4. *Danthonia spicata*	10	No	UPL
5. *Solidago canadensis*	5	No	FACU
6. *Lotus corniculatus*	5	No	FACU
7. *Populus tremuloides*	2	No	FAC
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	162	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	90	x 4 =	360
UPL species	70	x 5 =	350
Column Totals:	162 (A)		716 (B)
Prevalence Index = B/A =			4.42

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-07-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy loam	
4-20"	7.5YR 3/4	100					Loamy Sand	
20-28"	7.5YR 3/4	100					Sandy Clay	
28-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-08-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.303900 Long: -90.678088 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-08-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	30	Yes	OBL
2. *Onoclea sensibilis*	15	Yes	FACW
3. *Lotus corniculatus*	10	No	FACU
4. *Solidago canadensis*	10	No	FACU
5. *Poa pratensis*	5	No	FACU
6. *Fragaria virginiana*	5	No	FACU
7. *Hieracium aurantiacum*	5	No	UPL
8. *Achillea millefolium*	2	No	FACU
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	82	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	15	x 2 =	30
FAC species	5	x 3 =	15
FACU species	32	x 4 =	128
UPL species	5	x 5 =	25
Column Totals:	87 (A)		228 (B)
Prevalence Index = B/A =			2.62

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-08-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	7.5YR 3/2	100					Sandy Loam	
20-32"	7.5YR 3/4	95	7.5YR 4/6	10	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/11/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-08-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 0% Lat: 46.251869 Long: -90.679590 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	9"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-08-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	40	Yes	OBL
2. *Calamagrostis canadensis*	30	Yes	OBL
3. *Glyceria canadensis*	15	No	OBL
4. *Carex stricta*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	95	x 1 =	95
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		95 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-08-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
9-24"	7.5Yr 5/2	80	7.5YR 6/8	20	C	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-09-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 3% Lat: 46.303104 Long: -90.679020 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-09-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	35	Yes	OBL
2. *Typha latifolia*	10	No	OBL
3. *Juncus effusus*	10	No	OBL
4. *Poa palustris*	2	No	FACW
5. *Agrostis gigantea*	2	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	59	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	4	x 2 =	8
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	59 (A)		63 (B)
Prevalence Index = B/A =			1.07

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-09-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 2.5/2	100					Muck	
3-8"	7.5YR 3/2	95	7.5YR 5/6	5	C	M	Loamy Sand	
8-24"	7.5YR 4/4	85	7.5YR 6/8	15	C	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-09-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.251882 Long: -90.679458 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-09-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	35	Yes	FAC
2. *Populus tremuloides*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	50	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Athyrium filix-femina*	5	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	50	x 2 =	100
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	165 (A)		335 (B)
Prevalence Index = B/A =			2.03

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-09-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 3/2	95	7.5YR 5/2	5	D	M	Sandy Loam	
9-24"	7.5YR 4/1	90	7.5YR 5/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-10-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.303094 Long: -90.678957 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-10-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Eurybia macrophylla*	40	Yes	UPL
2. *Poa pratensis*	25	Yes	FACU
3. *Solidago canadensis*	10	No	FACU
4. *Pteridium aquilinum*	10	No	FACU
5. *Agrostis gigantea*	5	No	FACW
6. *Hieracium aurantiacum*	2	No	UPL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	45	x 4 =	180
UPL species	42	x 5 =	210
Column Totals:	97 (A)		415 (B)
Prevalence Index = B/A =			4.28

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-10-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	Gravely
4-18"	7.5YR 3/4	100					Loamy Sand	
18-26"	7.5YR 3/4	100					Loamy Sand	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-10-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.255004 Long: -90.679711 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-10-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	30	Yes	OBL
2. *Danthonia spicata*	20	Yes	UPL
3. *Fragaria virginiana*	10	No	FACU
4. *Achillea millefolium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	15	x 4 =	60
UPL species	20	x 5 =	100
Column Totals:	65 (A)		190 (B)
Prevalence Index = B/A =			2.92

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-10-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Loamy Sand	
7-20"	7.5YR 3/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
20-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-11-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.302271 Long: -90.679801 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-11-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	65	Yes	FACU
2. *Eurybia macrophylla*	15	No	UPL
3. *Achillea millefolium*	5	No	FACU
4. *Lotus corniculatus*	5	No	FACU
5. *Fragaria virginiana*	5	No	FACU
6. *Plantago lanceolata*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	15	x 5 =	75
Column Totals:	100 (A)		415 (B)
Prevalence Index = B/A =			4.15

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-11-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy Loam	
5-24"	7.5YR 3/3	90	7.5YR 4/6	10	C	M	Sandy Clay Loam	
24-36"	7.5YR 3/1	85	7.5YR 4/6	15	C	M	Sandy Loam	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-11-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.255085 Long: -90.679615 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-11-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria grandis*	30	Yes	OBL
2. *Calamagrostis canadensis*	25	Yes	OBL
3. *Scirpus atrovirens*	10	No	OBL
4. *Symphyotrichum puniceum*	10	No	OBL
5. *Solidago gigantea*	5	No	FACW
6. *Juncus effusus*	5	No	OBL
7. *Salix bebbiana*	5	No	FACW
8. *Hieracium aurantiacum*	2	No	UPL
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	92 (A)		110 (B)
Prevalence Index = B/A =			1.20

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-11-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 4/2	95	10YR 3/6	5	C	M	Sandy Clay	
10-18"	7.5YR 3/3	95	7.5YR 4/6	5	C	M	Sandy Clay	
18-28"	7.5YR 4/3	95	7.5YR 4/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-12-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.302305 Long: -90.679839 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-12-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	40	Yes	OBL
2. *Juncus effusus*	15	Yes	OBL
3. *Euthamia graminifolia*	5	No	FAC
4. *Onoclea sensibilis*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	5	x 2 =	10
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	65 (A)		80 (B)
Prevalence Index = B/A =			1.23

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-12-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
14-24"	7.5YR 2.5/1	70	7.5YR 4/2	25	D	M	Sandy Clay Loam	
			7.5YR 4/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-12-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 0% Lat: 46.254902 Long: -90.679490 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No X	Depth (inches):	2"
Water Table Present?	Yes X	No X	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-12-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	35	Yes	FAC
2. *Abies balsamea*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	55	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	20	Yes	FAC
2. *Abies balsamea*	5	No	FAC
3. *Ilex verticillata*	5	No	FACW
4. *Ulmus americana*	5	No	FACW
5.			
6.			
7.			
	35	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Carex crinita*	10	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	10	x 2 =	20
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		310 (B)
Prevalence Index = B/A =			2.21

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-12-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 2/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 4"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-13-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.301164 Long: -90.681105 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-13-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	55	Yes	OBL
2. *Scirpus cyperinus*	15	No	OBL
3. *Osmunda claytoniana*	10	No	FAC
4. *Onoclea sensibilis*	5	No	FACW
5. *Solidago gigantea*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		120 (B)
Prevalence Index = B/A =			1.33

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-13-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Sandy Loam	
7-20"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
20-24"	7.5YR 5/2	95	7.5YR 6/8	5	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-13-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.255910 Long: -90.679562 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-13-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Sagittaria latifolia*	40	Yes	OBL
2. *Calamagrostis canadensis*	30	Yes	OBL
3. *Typha latifolia*	10	No	OBL
4. *Iris versicolor*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		85 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-13-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-11-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.301215 Long: -90.681099 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-11-A

Clintonia borealis is likely misspelled

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Clintonia borealis*	35	Yes	UPL
2. *Pteridium aquilinum*	20	Yes	FACU
3. *Apocynum androsaemifolium*	15	No	UPL
4. *Poa pratensis*	15	No	FACU
5. *Hieracium aurantiacum*	5	No	UPL
6. *Equisetum arvense*	2	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	35	x 4 =	140
UPL species	55	x 5 =	275
Column Totals:	92 (A)		421 (B)
Prevalence Index = B/A =			4.58

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-11-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Clay Loam	
6-18"	7.5YR 3/3	100					Sandy Loam	
18-32"	7.5YR 3/3	85	7.5YR 4/6	15	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-14-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.258073 Long: -90.679730 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-14-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Hieracium aurantiacum*	20	Yes	UPL
2. *Fragaria virginiana*	15	Yes	FACU
3. *Poa pratensis*	15	Yes	FACU
4. *Achillea millefolium*	10	No	FACU
5. *Eurybia macrophylla*	10	No	UPL
6. *Equisetum hyemale*	5	No	FAC
7. *Solidago canadensis*	5	No	FACU
8. *Symphyotrichum novae-angliae*	5	No	FACW
9. *Leucanthemum vulgare*	2	No	UPL
10. *Populus tremuloides*	2	No	FAC
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	89	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	7	x 3 =	21
FACU species	45	x 4 =	180
UPL species	32	x 5 =	160
Column Totals:	89 (A)		371 (B)
Prevalence Index = B/A =			4.17

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-14-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Sandy loam	
3-30"	5Y 4/3	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-15-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.300648 Long: -90.681858 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-15-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus nigra*	50	Yes	FACW
2. *Ulmus americana*	25	Yes	FACW
3. *Acer rubrum*	10	No	FAC
4.			
5.			
6.			
7.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Fraxinus nigra*	10	Yes	FACW
2. *Ulmus americana*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	25	Yes	OBL
2. *Persicaria sagittata*	15	No	OBL
3. *Carex bebbii*	10	No	OBL
4. *Impatiens capensis*	10	No	FACW
5. *Glyceria canadensis*	10	No	OBL
6. *Phalaris arundinacea*	5	No	FACW
7. *Equisetum arvense*	5	No	FAC
8. *Onoclea sensibilis*	2	No	FACW
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	82	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	112	x 2 =	224
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	187 (A)		329 (B)
Prevalence Index = B/A =			1.76

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-15-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR 2/1	100					Mucky Peat	
4-16"	10YR 2/1	100					Silty Clay	
16-22"	7.5YR 4/4	85	7.5YR 4/6	15	C	M	Sandy Clay Loam	
22-32"	7.5YR 4/4	75	7.5YR 4/6	20	C	M	Sandy Clay Loam	7.5YR 4/1 5% D M

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-15-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.258089 Long: -90.679592 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	10"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-15-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Glyceria canadensis*	15	Yes	OBL
3. *Euthamia graminifolia*	10	No	FAC
4. *Solidago gigantea*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		105 (B)
Prevalence Index = B/A =			1.40

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-15-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/2	95	7.5YR 5/6	5	C	M	Loamy Sand	
10-18"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Loamy Sand	
18-24"	10YR 5/2	100					Clay Loam	
24-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-16-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.300607 Long: -90.681736 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-16-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	70	Yes	FACW
2. *Persicaria sagittata*	5	No	OBL
3. *Solidago gigantea*	5	No	FACW
4. *Glyceria grandis*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		160 (B)
Prevalence Index = B/A =			1.88

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-16-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5Yr 3/2	100					Sandy loam	
5-22"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Loamy Sand	
22-24"	7.5YR 2.5/1	100					Silt	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-16-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.258000 Long: -90.679492 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-16-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	20	Yes	FAC
2. *Fraxinus nigra*	15	Yes	FACW
3. *Ulmus americana*	10	Yes	FACW
4.			
5.			
6.			
7.			
	45	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	50	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	30	Yes	OBL
2. *Elymus canadensis*	30	Yes	FACU
3. *Onoclea sensibilis*	20	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	95	x 2 =	190
FAC species	20	x 3 =	60
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	175 (A)		400 (B)
Prevalence Index = B/A =			2.29

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-16-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 2/1	100					Muck	
16-24"	10YR 5/2	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-17-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.300549 Long: -90.681706 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-17-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Rubus allegheniensis*	45	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	45	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	35	Yes	FACU
2. *Phalaris arundinacea*	10	Yes	FACW
3. *Rubus pubescens*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	95 (A)		350 (B)
Prevalence Index = B/A =			3.68

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-17-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Loamy Sand	
4-24"	7.5YR 4/3	100					Loamy Sand	Gravelly

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-17-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.263446 Long: -90.679720 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-17-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Pteridium aquilinum*	60	Yes	FACU
2. *Eurybia macrophylla*	20	Yes	UPL
3. *Hieracium aurantiacum*	5	No	UPL
4. *Rubus idaeus*	5	No	FAC
5. *Gaultheria procumbens*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	65	x 4 =	260
UPL species	25	x 5 =	125
Column Totals:	95 (A)		400 (B)
Prevalence Index = B/A =			4.21

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-17-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy loam	
5-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-18-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.299589 Long: -90.682743 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-18-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	35	Yes	FACU
2. *Solidago canadensis*	15	Yes	FACU
3. *Agrostis gigantea*	10	No	FACW
4. *Hieracium aurantiacum*	10	No	UPL
5. *Symphyotrichum novae-angliae*	10	No	FACW
6. *Prunella vulgaris*	5	No	FAC
7. *Danthonia spicata*	2	No	UPL
8. *Equisetum arvense*	2	No	FAC
9. *Leucanthemum vulgare*	2	No	UPL
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	91	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	7	x 3 =	21
FACU species	50	x 4 =	200
UPL species	14	x 5 =	70
Column Totals:	91 (A)		331 (B)
Prevalence Index = B/A =			3.64

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-18-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/1	100					Sandy Clay Loam	
10-24"	5YR 4/3	95	7.5YR 4/6	5	C	M	Sandy Loam	Gravely

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-18-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.263414 Long: -90.679650 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): >16"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 6"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-18-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	30	Yes	OBL
2. *Carex bebbii*	25	Yes	OBL
3. *Glyceria grandis*	10	No	OBL
4. *Juncus canadensis*	10	No	OBL
5. *Solidago gigantea*	10	No	FACW
6. *Rubus idaeus*	5	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	10	x 2 =	20
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		110 (B)
Prevalence Index = B/A =			1.22

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-18-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	95	7.5YR 4/6	10	C	M	Sandy Loam	
6-17"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Sandy Loam	
17-24"	10YR 5/2	90	10YR 6/8	10	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-19-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.299610 Long: -90.682776 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-19-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Fraxinus nigra*	3	No	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	3	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	65	Yes	FACW
2. *Onoclea sensibilis*	25	Yes	FACW
3. *Solidago gigantea*	10	No	FACW
4. *Juncus effusus*	5	No	OBL
5. *Symphyotrichum lanceolatum*	5	No	FACW
6. *Equisetum arvense*	5	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	115	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	108	x 2 =	216
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	118 (A)		236 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-19-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	10YR 3/2	100					Sandy Loam	Gravely
7-15"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Clay Loam	
15-24"	7.5YR 4/3	98	7.5YR 4/6	2	C	M	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-19-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.269358 Long: -90.679708 Datum: NAD83

Soil Map Unit Name: 5374A - Bowstring-Arnheim complex, 0 to 1 percent slopes, frequently flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-19-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Rubus idaeus*	40	Yes	FAC
2. *Hieracium aurantiacum*	20	Yes	UPL
3. *Solidago gigantea*	15	No	FACW
4. *Cirsium vulgare*	5	No	FACU
5. *Populus tremuloides*	2	No	FAC
6. *Taraxacum officinale*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	84	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	42	x 3 =	126
FACU species	7	x 4 =	28
UPL species	20	x 5 =	100
Column Totals:	84 (A)		284 (B)
Prevalence Index = B/A =			3.38

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes _ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-19-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	10YR 3/1	100					Silt Loam	
7-14"	10YR 4/2	95	10YR 4/6	5	C	M	Loamy Sand	
14-24"	5Y 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-20-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.299688 Long: -90.682709 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-20-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	60	Yes	FACW
2. *Cornus alba*	10	No	FACW
3.			
4.			
5.			
6.			
7.			
	70	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	50	Yes	FACW
2. *Carex bebbii*	5	No	OBL
3. *Typha latifolia*	5	No	OBL
4. *Solidago gigantea*	5	No	FACW
5. *Euthamia graminifolia*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	125	x 2 =	250
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		275 (B)
Prevalence Index = B/A =			1.96

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-20-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	10YR 2/1	100					Muck	
18-24"	10YR 2/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-20-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.269440 Long: -90.679688 Datum: NAD83

Soil Map Unit Name: 5374A - Bowstring-Arnheim complex, 0 to 1 percent slopes, frequently flooded NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 4"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-20-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus cyperinus*	30	Yes	OBL
2. *Solidago gigantea*	15	Yes	FACW
3. *Calamagrostis canadensis*	10	No	OBL
4. *Onoclea sensibilis*	10	No	FACW
5. *Juncus effusus*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		95 (B)
Prevalence Index = B/A =			1.36

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-20-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Loam	
14-24"	7.5YR 5/2	90	7.5YR 6/8	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-21-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.299774 Long: -90.682795 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-21-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus nigra*	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	15	Yes	FACW
2. *Fraxinus nigra*	10	Yes	FACW
3. *Salix Bebbiana*	5	No	FACW
4. *Cornus alba*	5	No	FACW
5.			
6.			
7.			
	35	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Impatiens capensis*	40	Yes	FACW
2. *Phalaris arundinacea*	20	Yes	FACW
3. *Typha latifolia*	15	No	OBL
4. *Eutrochium purpureum*	5	No	FAC
5. *Onoclea sensibilis*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	140	x 2 =	280
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	160 (A)		310 (B)
Prevalence Index = B/A =			1.94

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-21-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-30"	10YR 2/1	100					Muck	
30-36"	10YR 2/2	100					Mucky Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-21-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.270637 Long: -90.679785 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-21-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Fragaria virginiana*	40	Yes	FACU
2. *Pteridium aquilinum*	30	Yes	FACU
3. *Hieracium aurantiacum*	25	No	UPL
4. *Lotus corniculatus*	10	No	FACU
5. *Poa pratensis*	5	No	FACU
6. *Danthonia spicata*	5	No	UPL
7. *Gaultheria procumbens*	5	No	FACU
8. *Carex bebbii*	2	No	OBL
9. *Achillea millefolium*	2	No	FACU
10. *Phleum pratense*	2	No	FACU
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	126	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	94	x 4 =	376
UPL species	30	x 5 =	150
Column Totals:	126 (A)		528 (B)
Prevalence Index = B/A =			4.19

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-21-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/1	100					Loamy Sand	
3-24"	5YR 4/3	100					Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-22-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 25% Lat: 46.298076 Long: -90.684362 Datum: NAD83

Soil Map Unit Name: 809D - Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-22-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	2	No	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	2	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Eurybia macrophylla*	60	Yes	UPL
2. *Pteridium aquilinum*	20	No	FACU
3. *Solidago canadensis*	10	No	FACU
4. *Poa palustris*	5	No	FACW
5. *Onoclea sensibilis*	5	No	FACW
6. *Equisetum arvense*	5	No	FAC
7. *Maianthemum canadense*	2	No	FACU
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	107	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	7	x 3 =	21
FACU species	32	x 4 =	128
UPL species	60	x 5 =	300
Column Totals:	109 (A)		469 (B)
Prevalence Index = B/A =			4.30

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-22-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 3/2	100					Sandy Loam	
8-24"	5YR 3/3	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-22-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.270621 Long: -90.679668 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-22-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Scirpus atrovirens*	5	No	OBL
3. *Carex bebbii*	2	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	47	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	47	x 1 =	47
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	47 (A)		47 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-22-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-23-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.298064 Long: -90.684461 Datum: NAD83

Soil Map Unit Name: 809D - Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	5"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-23-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	20	Yes	OBL
2. *Phalaris arundinacea*	20	Yes	FACW
3. *Carex lacustris*	5	No	OBL
4. *Solidago gigantea*	5	No	FACW
5. *Equisetum arvense*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	25	x 2 =	50
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		90 (B)
Prevalence Index = B/A =			1.64

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-23-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
16-24"	7.5YR 4/1	90	7.5YR 6/8	10	C	M	Silt	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-23-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.274026 Long: -90.679854 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-23-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Ulmus americana*	2	No	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	2	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Eurybia macrophylla*	20	Yes	UPL
3. *Lotus corniculatus*	15	No	FACU
4. *Danthonia spicata*	10	No	UPL
5. *Pteridium aquilinum*	10	No	FACU
6. *Achillea millefolium*	2	No	FACU
7. *Trifolium repens*	2	No	FACU
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	99	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	69	x 4 =	276
UPL species	30	x 5 =	150
Column Totals:	101 (A)		430 (B)
Prevalence Index = B/A =			4.26

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-23-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-24-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.294486 Long: -90.685848 Datum: NAD83

Soil Map Unit Name: 5351C - Gogebic silt loam, 6 to 18 percent slopes, very stony, rocky NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-24-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Rubus allegheniensis*	15	Yes	FACU
2. *Fraxinus nigra*	10	Yes	FACW
3. *Quercus ellipsoidalis*	10	Yes	UPL
4.			
5.			
6.			
7.			
	35	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	10	Yes	FACU
2. *Solidago canadensis*	5	Yes	FACU
3. *Eurybia macrophylla*	5	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	20	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 17% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	15	x 5 =	75
Column Totals:	55 (A)		215 (B)
Prevalence Index = B/A =			3.91

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-24-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-24-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.274015 Long: -90.679755 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-24-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	30	Yes	OBL
2. *Carex bebbii*	30	Yes	OBL
3. *Scirpus atrovirens*	15	No	OBL
4. *Juncus effusus*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		85 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-24-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-25-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.293208 Long: -90.685887 Datum: NAD83

Soil Map Unit Name: 809D - Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-25-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Rubus allegheniensis*	15	Yes	FACU
2. *Fraxinus nigra*	5	Yes	FACW
3. *Quercus ellipsoidalis*	5	Yes	UPL
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	10	Yes	OBL
2. *Solidago canadensis*	5	Yes	FACU
3. *Eurybia macrophylla*	5	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	20	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	10	x 5 =	50
Column Totals:	45 (A)		150 (B)
Prevalence Index = B/A =			3.33

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-25-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-25-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 25% Lat: 46.276651 Long: -90.679774 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-25-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Rubus idaeus*	25	Yes	FAC
2. *Agrostis gigantea*	15	Yes	FACW
3. *Hieracium aurantiacum*	15	Yes	UPL
4. *Pteridium aquilinum*	15	Yes	FACU
5. *Apocynum cannabinum*	10	No	FAC
6. *Populus tremuloides*	5	No	FAC
7. *Taraxacum officinale*	2	No	FACU
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	87	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	40	x 3 =	120
FACU species	17	x 4 =	68
UPL species	15	x 5 =	75
Column Totals:	87 (A)		293 (B)
Prevalence Index = B/A =			3.37

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-25-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2"	7.5YR 3/2	100					Sandy Loam	
2-14"	7.5YR 3/3	100					andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 14"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-26-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.293249 Long: -90.685984 Datum: NAD83

Soil Map Unit Name: 809D - Gogebic-Metonga-Rock outcrop complex, 10 to 35 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	5"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-26-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	50	Yes	FACW
2. *Fraxinus nigra*	25	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	2	No	
2.			
3.			
4.			
5.			
6.			
7.			
	2	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	70	Yes	FACW
2. *Carex crinita*	20	No	OBL
3. *Calamagrostis canadensis*	15	No	OBL
4. *Euthamia graminifolia*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	110	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	145	x 2 =	290
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	185 (A)		340 (B)
Prevalence Index = B/A =			1.84

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-26-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/2	100					Sandy Loam	
6-18"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	andy Clay Loa	
18-28"	10YR 4/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-26-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.276720 Long: -90.679807 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	5"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-26-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	45	Yes	OBL
2. *Juncus effusus*	15	Yes	OBL
3. *Scirpus atrovirens*	5	No	OBL
4. *Carex bebbii*	5	No	OBL
5. *Poa palustris*	2	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	72	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	2	x 2 =	4
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	72 (A)		74 (B)
Prevalence Index = B/A =			1.03

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-26-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 5/2	95	10YR 5/6	5	C	M	Loamy Sand	
6-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-27-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.290128 Long: -90.684886 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-27-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	50	Yes	OBL
2. *Solidago gigantea*	10	No	FACW
3. *Solidago canadensis*	5	No	FACU
4. *Eurybia macrophylla*	2	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	67	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	2	x 5 =	10
Column Totals:	67 (A)		100 (B)
Prevalence Index = B/A =			1.49

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-27-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-16"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 16"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-27-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.277348 Long: -90.679906 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-27-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	95	Yes	FACU
2. *Hieracium aurantiacum*	10	No	UPL
3. *Eurybia macrophylla*	5	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	110	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	15	x 5 =	75
Column Totals:	110 (A)		455 (B)
Prevalence Index = B/A =			4.14

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-27-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-13"	7.5YR 3/2	100					Loamy Sand	
13-24"	5Y 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-28-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 25% Lat: 46.290216 Long: -90.684864 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-28-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Quercus rubra*	10	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Cornus canadensis*	20	Yes	FAC
2. *Hieracium aurantiacum*	15	Yes	UPL
3. *Rubus idaeus*	10	Yes	FAC
4. *Equisetum arvense*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	10	x 4 =	40
UPL species	15	x 5 =	75
Column Totals:	60 (A)		220 (B)
Prevalence Index = B/A =			3.67

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-28-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 3/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 8"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-28-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.277343 Long: -90.679873 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-28-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	20	Yes	FACW
2. *Scirpus atrovirens*	15	Yes	OBL
3. *Juncus effusus*	10	No	OBL
4. *Juncus canadensis*	5	No	OBL
5. *Poa palustris*	2	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	52	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	22	x 2 =	44
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	52 (A)		74 (B)
Prevalence Index = B/A =			1.42

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-28-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11"	7.5YR 4/2	90	7.5YR 5/8	10	C	M	Sandy loam	
11-16"	7.5YR 5/2	80	7.5YR 6/8	15	C	M	andy Clay Loa	
			7.5YR 6/2	5	D	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 16"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-29-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.287708 Long: -90.683551 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-29-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Fragaria virginiana*	50	Yes	FACU
2. *Solidago canadensis*	20	Yes	FACU
3. *Elymus repens*	20	Yes	FACU
4. *Poa pratensis*	10	No	FACU
5. *Achillea millefolium*	5	No	FACU
6. *Hieracium aurantiacum*	5	No	UPL
7. *Hypericum perforatum*	5	No	UPL
8. *Equisetum arvense*	2	No	FAC
9. *Eurybia macrophylla*	2	No	UPL
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	119	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	105	x 4 =	420
UPL species	12	x 5 =	60
Column Totals:	119 (A)		486 (B)
Prevalence Index = B/A =			4.08

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-29-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/3	100					Silt Loam	
4-24"	5YR 4/3	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-29-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.279136 Long: -90.679907 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 13"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
.

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-29-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	90	Yes	FACU
2. *Lotus corniculatus*	5	No	FACU
3. *Achillea millefolium*	5	No	FACU
4. *Danthonia spicata*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	105	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	5	x 5 =	25
Column Totals:	105 (A)		425 (B)
Prevalence Index = B/A =			4.05

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-29-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-10"	5Y 4/3	98	7.5YR 4/6	2	C	M	Loamy Sand	
10-24"	5Y 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-30-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.287735 Long: -90.683618 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-30-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	90	Yes	FACW
2. *Solidago gigantea*	2	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	92	x 2 =	184
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	92 (A)		184 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-30-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-30-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.279199 Long: -90.679669 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-30-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus nigra*	40	Yes	FACW
2. *Betula alleghaniensis*	35	Yes	FAC
3. *Abies balsamea*	10	No	FAC
4.			
5.			
6.			
7.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	20	Yes	FACW
2. *Ilex verticillata*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Carex crinita*	15	Yes	OBL
3. *Solidago gigantea*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	80	x 2 =	160
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	180 (A)		350 (B)
Prevalence Index = B/A =			1.94

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-30-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR 2/1	70	7.5YR 6/8	20	C	M	Loam	
			7.5YR 5/2	10	D	M	Loam	
16-24"	5YR 4/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-31-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.285370 Long: -90.682486 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-31-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	40	Yes	FACU
2. *Doellingeria umbellata*	15	No	FACW
3. *Carex pensylvanica*	10	No	UPL
4. *Rubus idaeus*	5	No	FAC
5. *Apocynum androsaemifolium*	5	No	UPL
6. *Fragaria virginiana*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	77	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	42	x 4 =	168
UPL species	15	x 5 =	75
Column Totals:	87 (A)		318 (B)
Prevalence Index = B/A =			3.66

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-31-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 3/2	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 8"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-31-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.278686 Long: -90.679723 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-31-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	50	Yes	FACW
2. *Glyceria grandis*	25	Yes	OBL
3. *Rubus pubescens*	10	No	FACW
4. *Equisetum arvense*	5	No	FAC
5. *Carex bebbii*	2	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	27	x 1 =	27
FACW species	60	x 2 =	120
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	92 (A)		162 (B)
Prevalence Index = B/A =			1.76

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-31-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	7.5YR 4/2	90	7.5YR 4/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-32-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.285283 Long: -90.682556 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? Yes ____ No X Depth (inches): ____

(includes capillary fringe)

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-32-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	30	Yes	OBL
2. *Euthamia graminifolia*	15	Yes	FAC
3. *Symphyotrichum novae-angliae*	15	Yes	FACW
4. *Persicaria sagittata*	10	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		115 (B)
Prevalence Index = B/A =			1.64

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-32-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-17"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Loam	
17-24"	7.5YR 4/1	80	7.5YR 5/6	20	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-32-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.282307 Long: -90.680419 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-32-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	20	Yes	FAC
2. *Picea glauca*	15	Yes	FACU
3. *Ulmus americana*	10	Yes	FACW
4. *Prunus virginiana*	5	No	FACU
5.			
6.			
7.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Corylus americana*	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Rubus idaeus*	40	Yes	FAC
2. *Fragaria virginiana*	10	No	FACU
3. *Carex pensylvanica*	10	No	UPL
4. *Geranium carolinianum*	5	No	UPL
5. *Abies balsamea*	5	No	FAC
6. *Thalictrum dasycarpum*	5	No	FACW
7. *Doellingeria umbellata*	2	No	FACW
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	77	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	17	x 2 =	34
FAC species	65	x 3 =	195
FACU species	45	x 4 =	180
UPL species	15	x 5 =	75
Column Totals:	142 (A)		484 (B)
Prevalence Index = B/A =			3.41

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ___ Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? Yes x No ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-32-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 4/2	95	10YR 4/6	5	C	M	Sandy Loam	
6-24"	7.5YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-33-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.285016 Long: -90.682362 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-33-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Glyceria grandis*	10	No	OBL
3. *Solidago gigantea*	10	No	FACW
4. *Thalictrum dasycarpum*	10	No	FACW
5. *Iris virginica*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		115 (B)
Prevalence Index = B/A =			1.35

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-33-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-33-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.282334 Long: -90.680474 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	8"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-33-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	25	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria grandis*	35	Yes	OBL
2. *Impatiens capensis*	15	Yes	FACW
3. *Fraxinus nigra*	2	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	52	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	57	x 2 =	114
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	117 (A)		224 (B)
Prevalence Index = B/A =			1.91

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-33-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	70	7.5YR 4/6	5	C	M	Loamy Sand	
			7.5YR 5/2	5	D	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-34-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.283667 Long: -90.681646 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-34-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Juncus effusus*	25	Yes	OBL
3. *Solidago gigantea*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		115 (B)
Prevalence Index = B/A =			1.64

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-34-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Sandy Loam	
11-24"	7.5YR 5/2	85	7.5YR 5/6	15	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-34-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.284057 Long: -90.681576 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-34-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	50	Yes	FACU
2. *Fragaria virginiana*	20	Yes	FACU
3. *Achillea millefolium*	15	No	FACU
4. *Schedonorus arundinaceus*	5	No	FACU
5. *Scirpus atrovirens*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	95 (A)		365 (B)
Prevalence Index = B/A =			3.84

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-34-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Sandy loam	Gravelly
7-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-35-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.283609 Long: -90.681817 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-35-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	40	Yes	FAC
2. *Alnus incana*	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	55	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	85	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		320 (B)
Prevalence Index = B/A =			2.29

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-35-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/1	90	7.5YR 4/6	10	C	M	Loam	
9-24"	7.5YR 5/1	80	7.5YR 5/6	20	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-35-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.284078 Long: -90.681492 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-35-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Juncus effusus*	30	Yes	OBL
2. *Phalaris arundinacea*	25	Yes	FACW
3. *Onoclea sensibilis*	20	No	FACW
4. *Juncus canadensis*	10	No	OBL
5. *Scirpus cyperinus*	10	No	OBL
6. *Euthamia graminifolia*	10	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	105	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	45	x 2 =	90
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		170 (B)
Prevalence Index = B/A =			1.62

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-35-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
18-24"	7.5YR 5/2	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-36-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 8% Lat: 46.283701 Long: -90.681578 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-36-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Fragaria virginiana*	20	Yes	FACU
2. *Lotus corniculatus*	15	Yes	FACU
3. *Achillea millefolium*	15	Yes	FACU
4. *Phleum pratense*	15	Yes	FACU
5. *Pteridium aquilinum*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	75 (A)		300 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-36-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	
6-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-36-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 21, TWP 43N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.285998 Long: -90.682467 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-36-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	30	Yes	FACU
2. *Eurybia macrophylla*	20	Yes	UPL
3. *Hieracium aurantiacum*	15	No	UPL
4. *Poa palustris*	15	No	FACW
5. *Scirpus atrovirens*	10	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	35	x 5 =	175
Column Totals:	90 (A)		335 (B)
Prevalence Index = B/A =			3.72

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-36-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/3	100					Sandy Loam	Gravelly
6-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-37-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 45% Lat: 46.282843 Long: -90.681181 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-37-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Solidago canadensis*	15	Yes	FACU
3. *Achillea millefolium*	15	Yes	FACU
4. *Eurybia macrophylla*	10	No	UPL
5. *Fragaria virginiana*	10	No	FACU
6. *Hieracium aurantiacum*	5	No	UPL
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	15	x 5 =	75
Column Totals:	95 (A)		395 (B)
Prevalence Index = B/A =			4.16

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-37-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 3/2	100					Loamy Sand	
18-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-37-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.286007 Long: -90.682443 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-37-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix petiolaris*	10	Yes	FACW
2. *Salix bebbiana*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	20	Yes	OBL
2. *Impatiens capensis*	15	Yes	FACW
3. *Typha latifolia*	10	No	OBL
4. *Carex stricta*	10	No	OBL
5. *Eurybia macrophylla*	10	No	UPL
6. *Gentiana alba*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	45	x 2 =	90
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	10	x 5 =	50
Column Totals:	100 (A)		200 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-37-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	Coarse
18-26"	10YR 2/1	95	7.5YR 3/4	5	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rcok

Depth (inches): 26"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-38-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.282817 Long: -90.681255 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-38-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	75	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		150 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-38-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	90	7.5YR 4/6	5	C	M	Loamy Sand	
			7.5YR 5/2	5	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-38-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.285414 Long: -90.682097 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No X	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-38-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria grandis*	40	Yes	OBL
2. *Scirpus cyperinus*	15	Yes	OBL
3. *Juncus effusus*	10	No	OBL
4. *Onoclea sensibilis*	10	No	FACW
5. *Carex bebbii*	10	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		95 (B)
Prevalence Index = B/A =			1.12

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-38-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Sandy Loam	
7-24"	7.5YR 4/2	90	7.5YR 6/8	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-39-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 0% Lat: 46.282788 Long: -90.681413 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	14"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	8"

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-39-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	60	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	60	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	90	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	150	x 2 =	300
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	150 (A)		300 (B)
Prevalence Index = B/A =			2.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-39-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Loamy Sand	
5-24"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-39-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 7% Lat: 46.285407 Long: -90.682169 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-39-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Eurybia macrophylla*	20	Yes	UPL
3. *Elymus repens*	15	No	FACU
4. *Achillea millefolium*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	20	x 5 =	100
Column Totals:	80 (A)		340 (B)
Prevalence Index = B/A =			4.25

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-39-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 3/4	100					Loamy Sand	
14-24"	7.5YR 4/4	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-40-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 25% Lat: 46.280170 Long: -90.680170 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	>16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-40-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	30	Yes	FACW
2. *Fragaria virginiana*	30	Yes	FACU
3. *Poa pratensis*	20	Yes	FACU
4. *Lotus corniculatus*	15	No	FACU
5. *Achillea millefolium*	2	No	FACU
6. *Ambrosia artemisiifolia*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	99	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	69	x 4 =	276
UPL species	0	x 5 =	0
Column Totals:	99 (A)		336 (B)
Prevalence Index = B/A =			3.39

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-40-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy Loam	
5-26"	7.5YR 3/2	100					Loamy Sand	
26-32"	5YR 3/3	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-40-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 12% Lat: 46.287993 Long: -90.683428 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-40-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Poa palustris*	40	Yes	FACW
2. *Eurybia macrophylla*	15	Yes	UPL
3. *Achillea millefolium*	5	No	FACU
4. *Symphyotrichum novae-angliae*	2	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	62	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	42	x 2 =	84
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	15	x 5 =	75
Column Totals:	62 (A)		179 (B)
Prevalence Index = B/A =			2.89

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-40-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/2	100					Loamy Sand	
10-24"	7.5YR 4/3	95	7.5YR 4/4	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-41-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.280159 Long: -90.680227 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	6"

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-41-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	60	Yes	OBL
2. *Solidago gigantea*	10	No	FACW
3. *Rubus idaeus*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	10	x 2 =	20
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		95 (B)
Prevalence Index = B/A =			1.27

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-41-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
6-24"	7.5YR 2.5/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-41-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.287989 Long: -90.683309 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-41-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria canadensis*	45	Yes	OBL
2. *Calamagrostis canadensis*	20	Yes	OBL
3. *Solidago gigantea*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	65	x 1 =	65
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		85 (B)
Prevalence Index = B/A =			1.13

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-41-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-42-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.280164 Long: -90.680352 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-42-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	75	Yes	FACW
2. *Rubus idaeus*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
	85	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	80	Yes	OBL
2. *Onoclea sensibilis*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	80	x 2 =	160
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	170 (A)		270 (B)

Prevalence Index = B/A = 1.59

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-42-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 2.5/1	100					Muck	
10-16"	7.5YR 5/2	95	7.5YR 4/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 16"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-42-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.288005 Long: -90.683204 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-42-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus tremuloides*	25	Yes	FAC
2. *Acer rubrum*	20	Yes	FAC
3. *Ulmus americana*	20	Yes	FACW
4. *Fraxinus nigra*	15	No	FACW
5.			
6.			
7.			
	80	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	30	Yes	FACW
2. *Fraxinus nigra*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Glyceria canadensis*	15	Yes	OBL
3. *Onoclea sensibilis*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	85	x 2 =	170
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	185 (A)		360 (B)
Prevalence Index = B/A =			1.95

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-42-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-43-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.280166 Long: -90.680437 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-43-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus tremuloides*	40	Yes	FAC
2. *Fraxinus nigra*	20	Yes	FACW
3. *Abies balsamea*	20	Yes	FAC
4.			
5.			
6.			
7.			
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Fraxinus nigra*	30	Yes	FACW
2. *Alnus incana*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
	35	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	15	Yes	FACW
2. *Maianthemum canadense*	5	Yes	FACU
3. *Equisetum arvense*	5	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	65	x 3 =	195
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	140 (A)		355 (B)
Prevalence Index = B/A =			2.54

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-43-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Sandy Loam	
5-24"	7.5YR 4/2	90	7.5YR 5/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-43-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.290335 Long: -90.684559 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-43-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Trifolium hybridum*	35	Yes	FACU
2. *Poa pratensis*	15	Yes	FACU
3. *Eurybia macrophylla*	15	Yes	UPL
4. *Fragaria virginiana*	10	No	FACU
5. *Danthonia spicata*	10	No	UPL
6. *Lotus corniculatus*	5	No	FACU
7. *Schedonorus arundinaceus*	5	No	FACU
8. *Quercus rubra*	5	No	FACU
9. *Equisetum arvense*	2	No	FAC
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	102	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	2	x 3 =	6
FACU species	75	x 4 =	300
UPL species	25	x 5 =	125
Column Totals:	102 (A)		431 (B)
Prevalence Index = B/A =			4.23

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-43-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/3	100					Sandy Loam	
6-24"	5YR 4/4	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-44-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.278742 Long: -90.680141 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	surface
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-44-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix bebbiana*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	50	Yes	OBL
2. *Solidago gigantea*	15	Yes	FACW
3. *Calamagrostis canadensis*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		110 (B)
Prevalence Index = B/A =			1.29

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- _____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- _____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-44-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
16-24"	7.5YR 5/2	90	7.5YR 4/6	10	C	M	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-44-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.290329 Long: -90.684480 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-44-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	35	Yes	OBL
2. *Juncus effusus*	10	No	OBL
3. *Rubus idaeus*	10	No	FAC
4. *Solidago gigantea*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	5	x 2 =	10
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		85 (B)
Prevalence Index = B/A =			1.42

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-44-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-45-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 3% Lat: 46.278778 Long: -90.680102 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-45-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Achillea millefolium*	20	Yes	FACU
3. *Lotus corniculatus*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	65	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	65	x 4 =	260
UPL species	0	x 5 =	0
Column Totals:	65 (A)		260 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-45-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 3/2	100					Sandy Loam	
9-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-45-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 30% Lat: 46.291373 Long: -90.685042 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-45-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix discolor*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	30	Yes	FACU
2. *Fragaria virginiana*	30	Yes	FACU
3. *Danthonia spicata*	10	No	UPL
4. *Solidago gigantea*	10	No	FACW
5. *Eurybia macrophylla*	10	No	UPL
6. *Solidago canadensis*	5	No	FACU
7. *Achillea millefolium*	5	No	FACU
8. *Populus tremuloides*	2	No	FAC
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	102	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	2	x 3 =	6
FACU species	70	x 4 =	280
UPL species	20	x 5 =	100
Column Totals:	112 (A)		426 (B)
Prevalence Index = B/A =			3.80

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-45-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Sandy Loam	
3-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-46-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.277094 Long: -90.680091 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slope NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-46-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Achillea millefolium*	20	Yes	FACU
3. *Hieracium caespitosum*	15	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	15	x 5 =	75
Column Totals:	75 (A)		315 (B)
Prevalence Index = B/A =			4.20

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-46-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 3/2	100					Loamy Sand	
9-18"	7.5YR 4/3	100					Loamy Sand	
18-24"	7.5YR 4/4	60	7.5YR 5/2	20	D	M	Sandy Clay Loam	
			7.5YR 5/1	20	D	M	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-46-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.291381 Long: -90.684960 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-46-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	20	Yes	OBL
2. *Carex bebbii*	15	Yes	OBL
3. *Poa palustris*	10	No	FACW
4. *Juncus canadensis*	5	No	OBL
5. *Onoclea sensibilis*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		70 (B)
Prevalence Index = B/A =			1.27

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-46-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 4/2	80	7.5YR 6/8	20	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 9"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-47-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.277081 Long: -90.680161 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-47-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	75	Yes	OBL
2. *Rubus idaeus*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		105 (B)
Prevalence Index = B/A =			1.24

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-47-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-47-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.291391 Long: -90.684821 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-47-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies balsamea*	55	Yes	FAC
2. *Acer rubrum*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	30	Yes	FACW
2. *Acer rubrum*	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glyceria canadensis*	70	Yes	OBL
2. *Equisetum arvense*	5	No	FAC
3. *Symphyotrichum novae-angliae*	5	No	FACW
4. *Cornus canadensis*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	35	x 2 =	70
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	195 (A)		410 (B)
Prevalence Index = B/A =			2.10

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-47-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: 12"

Depth (inches): Rock

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-48-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.277073 Long: -90.680337 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-48-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	40	Yes	FAC
2. *Populus tremuloides*	30	Yes	FAC
3. *Tsuga canadensis*	15	No	FACU
4.			
5.			
6.			
7.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Acer rubrum*	5	Yes	FAC
2. *Fraxinus nigra*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	45	Yes	OBL
2. *Onoclea sensibilis*	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	20	x 2 =	40
FAC species	75	x 3 =	225
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	155 (A)		370 (B)
Prevalence Index = B/A =			2.39

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-48-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/1	100					Mucky Loam	
4-18"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Loam	
18-24"	7.5YR 2.5/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- X Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-48-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 45% Lat: 46.297560 Long: -90.684073 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-48-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Lotus corniculatus*	30	Yes	FACU
3. *Schedonorus arundinaceus*	10	No	FACU
4. *Hypericum perforatum*	5	No	UPL
5. *Solidago gigantea*	5	No	FACW
6. *Daucus carota*	5	No	UPL
7. *Leucanthemum vulgare*	2	No	UPL
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	12	x 5 =	60
Column Totals:	97 (A)		390 (B)
Prevalence Index = B/A =			4.02

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-48-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Silt Loam	
3-24"	5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-49-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.273643 Long: -90.680108 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-49-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	35	Yes	FACU
2. *Lotus corniculatus*	20	Yes	FACU
3. *Fragaria virginiana*	15	No	FACU
4. *Achillea millefolium*	10	No	FACU
5. *Trifolium hybridum*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	90 (A)		360 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-49-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	7.5YR 4/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 20"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-49-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 13, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.297542 Long: -90.684008 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-49-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	35	Yes	FACW
2. *Onoclea sensibilis*	10	No	FACW
3. *Juncus effusus*	10	No	OBL
4. *Solidago gigantea*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		110 (B)
Prevalence Index = B/A =			1.83

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-49-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Loamy Sand	
5-24"	7.5YR 3/1	95	7.5YR 4/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-50-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 24, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.273641 Long: -90.680155 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-50-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	45	Yes	OBL
2. *Solidago gigantea*	10	No	FACW
3. *Alnus incana*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		75 (B)
Prevalence Index = B/A =			1.25

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- _____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- _____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-50-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Loam	
20-24"	7.5YR 5/1	90	7.5YR 6/8	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-50-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.299671 Long: -90.682221 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	3"
Water Table Present?	Yes X	No ____	Depth (inches):	3"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-50-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix petiolaris*	10	Yes	FACW
2. *Spiraea alba*	5	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	40	Yes	OBL
2. *Typha latifolia*	10	No	OBL
3. *Onoclea sensibilis*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		90 (B)
Prevalence Index = B/A =			1.29

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-50-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 2.5/1	100					Muck	
14-18"	7.5YR 4/3	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 18"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-51-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.268710 Long: -90.680080 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-51-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	35	Yes	FACU
2. *Lotus corniculatus*	30	Yes	FACU
3. *Achillea millefolium*	15	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	80 (A)		320 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-51-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Loamy Sand	
6-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-51-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.299632 Long: -90.682044 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-51-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus tremuloides*	10	Yes	FAC
2. *Acer rubrum*	5	Yes	FAC
3. *Fraxinus nigra*	5	Yes	FACW
4.			
5.			
6.			
7.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	15	Yes	FACW
2. *Fraxinus nigra*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Onoclea sensibilis*	10	Yes	FACW
2. *Carex crinita*	10	Yes	OBL
3. *Osmundastrum cinnamomeum*	10	Yes	FACW
4. *Athyrium filix-femina*	5	No	UPL
5. *Rubus pubescens*	2	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	37	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	52	x 2 =	104
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	82 (A)		184 (B)
Prevalence Index = B/A =			2.24

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-51-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Loamy Sand	
16-24"	7.5YR 5/2	90	7.5YR 5/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-52-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.268711 Long: -90.680112 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-52-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	70	Yes	OBL
2. *Populus tremuloides*	10	No	FAC
3. *Solidago gigantea*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	5	x 2 =	10
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		110 (B)
Prevalence Index = B/A =			1.29

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-52-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Loam	
4-14"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	
14-24"	7.5YR 5/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-52-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.299358 Long: -90.682489 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-52-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	10	Yes	FACU
2. *Quercus rubra*	10	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	40	Yes	FAC
2. *Quercus rubra*	25	Yes	FACU
3. *Apocynum cannabinum*	10	No	FAC
4.			
5.			
6.			
7.			
	75	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Clintonia borealis*	55	Yes	FAC
2. *Hieracium aurantiacum*	30	Yes	UPL
3. *Eurybia macrophylla*	5	No	UPL
4. *Maianthemum canadense*	5	No	FACU
5. *Trientalis borealis*	2	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	107	x 3 =	321
FACU species	50	x 4 =	200
UPL species	35	x 5 =	175
Column Totals:	192 (A)		696 (B)
Prevalence Index = B/A =			3.63

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-52-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 3/1	100					Silt Loam	
10-24"	7.5YR 3/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-53-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.263091 Long: -90.680050 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-53-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Eurybia macrophylla*	15	Yes	UPL
3. *Pteridium aquilinum*	15	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	55	x 4 =	220
UPL species	15	x 5 =	75
Column Totals:	70 (A)		295 (B)
Prevalence Index = B/A =			4.21

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-53-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Loamy Sand	
7-24"	7.5YR 4/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-53-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Slough Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.299294 Long: -90.682569 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-53-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus nigra*	35	Yes	FACW
2. *Acer rubrum*	25	Yes	FAC
3. *Betula alleghaniensis*	10	No	FAC
4.			
5.			
6.			
7.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Populus tremuloides*	30	Yes	FAC
2. *Fraxinus nigra*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	25	Yes	OBL
2. *Calamagrostis canadensis*	25	Yes	OBL
3. *Impatiens capensis*	15	No	FACW
4. *Osmundastrum cinnamomeum*	15	No	FACW
5. *Equisetum arvense*	10	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	85	x 2 =	170
FAC species	75	x 3 =	225
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	210 (A)		445 (B)
Prevalence Index = B/A =			2.12

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-53-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 2.5/1	100					Muck	
8-15"	10YR 2/1	95	10YR 4/4	5	C	M	Silty Clay	
15-24"	10YR 4/1	95	10YR 4/4	5	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-54-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.263090 Long: -90.680088 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-54-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Carex bebbii*	15	Yes	OBL
3. *Agrostis gigantea*	10	No	FACW
4. *Poa pratensis*	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	67	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	67 (A)		83 (B)
Prevalence Index = B/A =			1.24

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-54-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-12"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-54-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.300241 Long: -90.681725 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-54-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa palustris*	20	Yes	FACW
2. *Lotus corniculatus*	20	Yes	FACU
3. *Achillea millefolium*	20	Yes	FACU
4. *Hieracium aurantiacum*	15	No	UPL
5. *Poa pratensis*	10	No	FACU
6. *Solidago gigantea*	5	No	FACW
7. *Onoclea sensibilis*	5	No	FACW
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	15	x 5 =	75
Column Totals:	95 (A)		335 (B)
Prevalence Index = B/A =			3.53

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-54-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13"	7.5YR 3/3	100					Sandy Loam	Gravelly
13-24"	5YR 4/4	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-55-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.260976 Long: -90.679989 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-55-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus atrovirens*	40	Yes	OBL
2. *Typha latifolia*	10	No	OBL
3. *Juncus canadensis*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		55 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-55-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 5/2	95	7.5YR 5/6	5	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 10"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-55-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 2% Lat: 46.300214 Long: -90.681639 Datum: NAD83

Soil Map Unit Name: 670C - Keweenaw-Pence complex, 6 to 15 percent slopes, stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-55-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Solidago gigantea*	15	Yes	FACW
3. *Fraxinus nigra*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		80 (B)
Prevalence Index = B/A =			1.33

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-55-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
7-24"	7.5YR 4/2	70	7.5YR 5/8	30	C	M	Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-56-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.260897 Long: -90.679976 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-56-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Eurybia macrophylla*	15	Yes	UPL
3. *Solidago canadensis*	15	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	50	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	15	x 5 =	75
Column Totals:	50 (A)		215 (B)
Prevalence Index = B/A =			4.30

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-56-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18"	7.5YR 3/2	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 18"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-56-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 10% Lat: 46.302596 Long: -90.679204 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-56-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Danthonia spicata*	15	Yes	UPL
3. *Phleum pratense*	10	No	FACU
4. *Solidago canadensis*	5	No	FACU
5. *Solidago gigantea*	5	No	FACW
6. *Agrostis gigantea*	5	No	FACW
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	15	x 5 =	75
Column Totals:	60 (A)		235 (B)
Prevalence Index = B/A =			3.92

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-56-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 3/2	100					Sandy Clay	
9-24"	7.5YR 4/4	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-57-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.260835 Long: -90.680004 Datum: NAD83

Soil Map Unit Name: 5172C - Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-57-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Juncus canadensis*	40	Yes	OBL
2. *Euthamia graminifolia*	15	Yes	FAC
3. *Calamagrostis canadensis*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	45	x 1 =	45
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		90 (B)
Prevalence Index = B/A =			1.50

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-57-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-19"	7.5YR 4/2	85	7.5YR 5/6	15	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Hardpan

Depth (inches): 19"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-57-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.302574 Long: -90.679158 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-57-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	70	Yes	OBL
2. *Athyrium filix-femina*	5	No	UPL
3. *Solidago gigantea*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	80 (A)		105 (B)
Prevalence Index = B/A =			1.31

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-57-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 5/2	98	7.5YR 5/6	5	C	M	Sandy Loam	
7-24"	7.5YR 6/1	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-58-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 15% Lat: 46.258003 Long: -90.679958 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-58-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	20	Yes	FACU
2. *Andropogon gerardii*	15	Yes	FACU
3. *Onoclea sensibilis*	5	No	FACW
4. *Rubus pubescens*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	45	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	45 (A)		160 (B)
Prevalence Index = B/A =			3.56

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-58-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-24"	7.5YR 4/4	100					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-58-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 12, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.302655 Long: -90.678935 Datum: NAD83

Soil Map Unit Name: 5170A - Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	1"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-58-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus nigra*	60	Yes	FACW
2. *Betula alleghaniensis*	10	No	FAC
3.			
4.			
5.			
6.			
7.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	60	Yes	FACW
2. *Fraxinus nigra*	10	No	FACW
3. *Ilex verticillata*	5	No	FACW
4.			
5.			
6.			
7.			
	75	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Impatiens capensis*	45	Yes	FACW
2. *Carex stricta*	15	Yes	OBL
3. *Equisetum arvense*	5	No	FAC
4. *Calla palustris*	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	180	x 2 =	360
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	215 (A)		425 (B)
Prevalence Index = B/A =			1.98

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- X Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-58-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 8"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-59-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 10% Lat: 46.257999 Long: -90.680055 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-59-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex crinita*	25	Yes	OBL
2. *Carex bebbii*	15	Yes	OBL
3. *Juncus effusus*	10	No	OBL
4. *Salix exigua*	5	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	55 (A)		75 (B)
Prevalence Index = B/A =			1.36

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-59-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 2.5/2	100					Sandy Loam	
5-17"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	
17-24"	7.5YR 5/1	95	7.5YR 6/8	5	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-59-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 7, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 50% Lat: 46.311708 Long: -90.669326 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-59-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Ulmus americana*	25	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	95	Yes	FACU
2. *Cirsium vulgare*	2	No	FACU
3. *Pteridium aquilinum*	2	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	99	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	99	x 4 =	396
UPL species	0	x 5 =	0
Column Totals:	124 (A)		446 (B)
Prevalence Index = B/A =			3.60

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-59-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8"	7.5YR 3/3	100					Sandy Loam	
8-26"	10YR 2/1	85	10YR 6/1	10	D	M		
			10YR 4/6	5	C	M	Silt Loam	
26-36"	5YR 4/4	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-60-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.257994 Long: -90.680190 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	2"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-60-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	80	Yes	FACW
2. *Rubus idaeus*	5	No	FAC
3.			
4.			
5.			
6.			
7.			
	85	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	35	Yes	OBL
2. *Calamagrostis canadensis*	25	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	80	x 2 =	160
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	145 (A)		235 (B)
Prevalence Index = B/A =			1.62

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-60-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14"	7.5YR 2.5/1	100					Muck	
14-24"	7.5YR 2.5/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-60-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 7, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.311690 Long: -90.669271 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-60-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	40	Yes	OBL
2. *Euthamia graminifolia*	20	Yes	FAC
3. *Onoclea sensibilis*	10	No	FACW
4. *Poa palustris*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	15	x 2 =	30
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		130 (B)
Prevalence Index = B/A =			1.73

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-60-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-61-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.255850 Long: -90.679918 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): >16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-61-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Fragaria virginiana*	25	Yes	FACU
3. *Achillea millefolium*	10	Yes	FACU
4. *Eurybia macrophylla*	10	Yes	UPL
5. *Schedonorus arundinaceus*	10	Yes	FACU
6. *Leucanthemum vulgare*	5	No	UPL
7. *Lotus corniculatus*	5	No	FACU
8. *Phleum pratense*	5	No	FACU
9. *Hieracium aurantiacum*	5	No	UPL
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	20	x 5 =	100
Column Totals:	95 (A)		400 (B)
Prevalence Index = B/A =			4.21

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-61-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Loamy Sand	
4-28"	5YR 4/3	100					Sandy Loam	
28-36"	10YR 2/1	95	10YR 4/6	5	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-61-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 7, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.311647 Long: -90.669235 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	6"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-61-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Salix bebbiana*	40	Yes	FACW
2. *Larix laricina*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
	50	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Osmundastrum cinnamomeum*	45	Yes	FACW
2. *Onoclea sensibilis*	15	Yes	FACW
3. *Calamagrostis canadensis*	10	No	OBL
4. *Rubus pubescens*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	115	x 2 =	230
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	125 (A)		240 (B)
Prevalence Index = B/A =			1.92

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-61-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/1	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-62-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.255859 Long: -90.680003 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	2"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-62-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	35	Yes	OBL
2. *Typha latifolia*	15	Yes	OBL
3. *Onoclea sensibilis*	10	No	FACW
4. *Scirpus atrovirens*	5	No	OBL
5. *Solidago gigantea*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		85 (B)
Prevalence Index = B/A =			1.21

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-62-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-28"	7.5YR 2.5/1	100					Muck	
28-36"	5YR 4/4	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-62-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 35% Lat: 46.317059 Long: -90.663776 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-62-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	50	Yes	FACU
2. *Achillea millefolium*	10	No	FACU
3. *Dactylis glomerata*	10	No	FACU
4. *Taraxacum officinale*	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	72	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	72	x 4 =	288
UPL species	0	x 5 =	0
Column Totals:	72 (A)		288 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-62-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 3/3	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 24"

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Road to Jeffeson Ave. City/County: Mellen/Ashland Sampling Date: 7/27/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-63-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 25, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.255941 Long: -90.680182 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	2"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-63-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	25	Yes	FAC
2. *Abies balsamea*	15	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	35	Yes	FACW
2. *Acer rubrum*	5	No	FAC
3. *Spiraea alba*	5	No	FACW
4.			
5.			
6.			
7.			
	45	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex striata*	80	Yes	OBL
2. *Onoclea sensibilis*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	45	x 2 =	90
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	170 (A)		305 (B)
Prevalence Index = B/A =			1.79

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-63-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	100					Muck	
4-24"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-63-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.317049 Long: -90.663749 Datum: NAD83

Soil Map Unit Name: 809C - Gogebic-Metonga-Rock outcrop complex, 6 to 18 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	1"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-63-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	45	Yes	OBL
2. *Juncus effusus*	10	No	OBL
3. *Lythrum salicaria*	10	No	OBL
4. *Carex lacustris*	5	No	OBL
5. *Juncus canadensis*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		75 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-63-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-64-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Riser Local relief (concave, convex, none): convex

Slope (%): 40% Lat: 46.250883 Long: -90.679898 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	16"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-64-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	40	Yes	FACU
2. *Achillea millefolium*	15	Yes	FACU
3. *Festuca rubra*	10	No	FACU
4. *Eurybia macrophylla*	10	No	UPL
5. *Lotus corniculatus*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	10	x 5 =	50
Column Totals:	80 (A)		330 (B)
Prevalence Index = B/A =			4.13

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-64-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR 3/2	100					Loamy Sand	
3-16"	5YR 3/4	100					Sandy Loam	
16-30"	5YR 4/4	100					andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-64-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.317837 Long: -90.662941 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-64-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	20	Yes	FACU
2. *Danthonia spicata*	20	Yes	UPL
3. *Ambrosia artemisiifolia*	5	No	FACU
4. *Lotus corniculatus*	5	No	FACU
5. *Onoclea sensibilis*	5	No	FACW
6. *Sonchus oleraceus*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	60	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	20	x 5 =	100
Column Totals:	60 (A)		250 (B)
Prevalence Index = B/A =			4.17

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-64-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/3	100					Sandy Loam	
6-12"	7.5YR 2.5/3	100					Loamy Sand	
12-16"	7.5YR 3/3	100					Sandy Clay Loam	
16-24"	7.5YR 2.5/3	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-65-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 10% Lat: 46.250912 Long: -90.679961 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	7"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-65-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	10	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	20	Yes	FACW
2. *Scirpus cyperinus*	15	Yes	OBL
3. *Carex bebbii*	10	No	OBL
4. *Scirpus atrovirens*	10	No	OBL
5. *Solidago gigantea*	10	No	FACW
6. *Euthamia graminifolia*	5	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	40	x 2 =	80
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		130 (B)
Prevalence Index = B/A =			1.63

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-65-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 3/2	100					Sandy Loam	
4-16"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	Sand	
16-28"	7.5YR 4/2	95	7.5YR 4/6	5	C	M	andy Clay Loa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-65-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): convex

Slope (%): 2% Lat: 46.317824 Long: -90.662925 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
Recent flooding has caused ditch to be filled with washed-out sediment (fill). WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? **Yes X** **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-65-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Carex lacustris*	15	Yes	OBL
3. *Onoclea sensibilis*	10	No	FACW
4. *Scirpus atrovirens*	5	No	OBL
5. *Persicaria sagittata*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		125 (B)
Prevalence Index = B/A =			1.67

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-65-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/2	100					Sandy Loam	
6-24"	10YR 4/2	95	7.5YR 4/6	5	C	M	Sandy Clay	
			′R					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-66-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 10% Lat: 46.250935 Long: -90.680114 Datum: NAD83

Soil Map Unit Name: 5171B - Tula-Wormet-Gogebic complex, 0 to 6 percent slopes, very stony NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	3"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-66-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera*	5	Yes	FACW
2. *Populus tremuloides*	5	Yes	FAC
3. *Abies balsamea*	5	Yes	FAC
4.			
5.			
6.			
7.			
	15	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Abies balsamea*	5	Yes	FAC
2. *Alnus incana*	5	Yes	FACW
3. *Fraxinus nigra*	5	Yes	FACW
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	20	Yes	OBL
2. *Carex gracillima*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	25	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 88% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	15	x 2 =	30
FAC species	15	x 3 =	45
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	55 (A)		115 (B)
Prevalence Index = B/A =			2.09

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-66-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13"	7.5YR 4/2	90	7.5YR 4/6	10	C	M	Loamy Sand	
13-18"	7.5YR 5/2	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Unable to retrieve past 18" due to saturated conditions.

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-66-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 20% Lat: 46.319010 Long: -90.661683 Datum: NAD83

Soil Map Unit Name: 2030 - Udorthents and Udipsamments, cut or fill NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-66-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago canadensis*	35	Yes	FACU
2. *Lotus corniculatus*	30	Yes	FACU
3. *Danthonia spicata*	15	No	UPL
4. *Cirsium arvense*	10	No	FACU
5. *Elymus repens*	5	No	FACU
6. *Achillea millefolium*	5	No	FACU
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	15	x 5 =	75
Column Totals:	100 (A)		415 (B)
Prevalence Index = B/A =			4.15

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-66-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/2	100					Loamy Sand	
5-30"	7.5YR 4/3	100					Loamy Sand	
30-34"	7.5YR 4/6	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-67-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 55% Lat: 46.248679 Long: -90.679878 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-67-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Fragaria virginiana*	25	Yes	FACU
2. *Poa pratensis*	25	Yes	FACU
3. *Achillea millefolium*	20	Yes	FACU
4. *Lotus corniculatus*	10	No	FACU
5. *Equisetum arvense*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	85 (A)		335 (B)
Prevalence Index = B/A =			3.94

Hydrophytic Vegetation Indicators:

_ Rapid Test for Hydrophytic Vegetation

_ Dominance Test is >50%

_ Prevalence Index is ≤ 3.0[1]

_ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-67-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6"	7.5YR 3/2	100					Sandy Loam	Gravelly
6-28"	7.5YR 3/3	100					Loamy Sand	Coarse
28-30"	10YR 2/1	100					Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-67-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.318999 Long: -90.661457 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-67-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	10	Yes	OBL
2. *Scirpus atrovirens*	10	Yes	OBL
3. *Impatiens capensis*	5	No	FACW
4. *Onoclea sensibilis*	5	No	FACW
5. *Eurybia macrophylla*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	35 (A)		65 (B)
Prevalence Index = B/A =			1.86

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-67-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5"	7.5YR 3/3	100					Silt Loam	
5-24"	7.5YR 4/2	95	7.5YR 5/6	5	C	M	Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-68-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.248677 Long: -90.679971 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes X	No ____	Depth (inches):	4"
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-68-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Carex lacustris*	55	Yes	OBL
2. *Spiraea alba*	15	No	FACW
3. *Solidago gigantea*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	80	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		105 (B)
Prevalence Index = B/A =			1.31

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-68-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-36"	10YR 2/2	100					Muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-68-B

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 6, TWP 44N, RNG 2W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 1% Lat: 46.318856 Long: -90.661726 Datum: NAD83

Soil Map Unit Name: 5141A - Lupton-Pleine-Cathro complex, 0 to 1 percent slopes NWI classification: PFO2/SS3Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	____

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-68-B

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Alnus incana*	40	Yes	FACW
2. *Salix bebbiana*	15	Yes	FACW
3. *Salix interior*	10	No	FACW
4.			
5.			
6.			
7.			
	65	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Calamagrostis canadensis*	25	Yes	OBL
2. *Schoenoplectus tabernaemontani*	20	Yes	OBL
3. *Glyceria canadensis*	20	Yes	OBL
4. *Solidago gigantea*	10	No	FACW
5. *Scirpus atrovirens*	10	No	OBL
6. *Iris virginica*	5	No	OBL
7. *Carex lacustris*	5	No	OBL
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	95	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	75	x 2 =	150
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	160 (A)		235 (B)
Prevalence Index = B/A =			1.47

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-68-B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	7.5YR 4/2	95	10YR 4/6	5	C	M	Silt Loam	
10-20"	7.5YR 3/4	100					Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 20"

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-69-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 5% Lat: 46.246379 Long: -90.679507 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-69-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Lotus corniculatus*	40	Yes	FACU
2. *Poa pratensis*	30	Yes	FACU
3. *Fragaria virginiana*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	75 (A)		300 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-69-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR 2.5/2	100					Sandy Loam	
4-24"	7.5YR 3/2	100					Loamy Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-70-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 0% Lat: 46.246363 Long: -90.679560 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	6"
Water Table Present?	Yes X	No ____	Depth (inches):	surface
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	surface

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-70-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Scirpus cyperinus*	25	Yes	OBL
2. *Juncus effusus*	5	No	OBL
3. *Calamagrostis canadensis*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	35 (A)		35 (B)
Prevalence Index = B/A =			1.00

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-70-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9"	7.5YR 5/2	98	7.5YR 4/6	2	C	M	Sand	
9-36"								Unable to retrieve due to saturated conditions

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-71-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): convex

Slope (%): 25% Lat: 46.245150 Long: -90.678773 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 13"

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-71-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5 ft.)			
1. *Apocynum androsaemifolium*	40	Yes	UPL
2. *Rubus idaeus*	25	Yes	FAC
3. *Elymus repens*	20	Yes	FACU
4. *Solidago canadensis*	5	No	FACU
5. *Pteridium aquilinum*	2	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	92	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	27	x 4 =	108
UPL species	40	x 5 =	200
Column Totals:	92 (A)		383 (B)
Prevalence Index = B/A =			4.16

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤ 3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-71-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7"	7.5YR 3/2	100					Sandy loam	
7-21"	7.5YR 3/1	95	7.5YR 4/6	5	C	M	Sandy Loam	
21-30"	10YR 2/1	95	10YR 4/4	5	C	M	Sandy Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

WETLAND DETERMINATION DATA FORM -- Northcentral Great Lakes Regior

Project/Site: J157001M17: STH 13 Cayuga Rd to Jefferson Ave. City/County: Mellen/Ashland Sampling Date: 7/28/2016

Applicant/Owner: WisDOT State: WI Sampling Point: DP-72-A

Investigator(s): Zach Waechter, Jameson Loesch Section, Township, Range: SEC 36, TWP 44N, RNG 3W

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): concave

Slope (%): 10% Lat: 46.245163 Long: -90.678820 Datum: NAD83

Soil Map Unit Name: 5140A - Dawson, Greenwood, and Loxley soils, 0 to 1 percent slopes NWI classification: PSS1Bg

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS -- Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**		
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:		

Remarks: (Explain alternative procedures here or in a separate report.)
WETS analysis determined that the antecedent precipitation conditions were wetter than normal.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopograpic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DP-72-A

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1. *Spiraea alba*	15	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Solidago gigantea*	30	Yes	FACW
2. *Carex bebbii*	25	Yes	OBL
3. *Carex crinita*	15	Yes	OBL
4. *Euthamia graminifolia*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14			
15			
16			
17			
18			
19			
20			
	75	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	45	x 2 =	90
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		145 (B)
Prevalence Index = B/A =			1.61

Hydrophytic Vegetation Indicators:

- X Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- X Prevalence Index is ≤ 3.0[1]
- ___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 inches (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 inches DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present ? **Yes** x **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DP-72-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-17"	10YR 2/1	90	7.5YR 6/8	10	C	M	Clay Loam	
17-24"	10YR 5/2	95	7.5YR 4/6	5	C	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, LRR M, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Mucky Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L, M)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

This page intentionally left blank.

STH 13 Cayuga Road to Jefferson Ave

APPENDIX C

WISDOT WETLAND CLASSIFICATION SYSTEM

Table 1C. Wetland Type Classification for the Wisconsin Wetland Mitigation Bank.

Cir39 Classification	Wetland Type Bank Site *	Examples of Vegetational Community Types
1A Seasonally flooded basin or flat	Riparian wetland (RPF) (wooded)	Floodplain Forest (includes Bottomland Hardwood forests **), Riparian Shrub Carr and Alder Thickets
1B Seasonally flooded basin or flat	Riparian wetland (RPE) (emergent)	Riparian Wet and Sedge Meadows, Bars and Mudflats
2 Inland fresh meadow	Wet Meadow (M)	Wet Meadow, Wet/Wet Mesic Prairie, Sedge Meadow, Vernal pools, (also includes Fens **)
3 Inland shallow fresh marsh	Shallow Marsh (SM)	Emergent Aquatic
4 Inland deep fresh marsh	Deep Marsh (DM)	Emergent and Submergent Aquatic
5 Inland open fresh water	Aquatic Bed (AB)	Submergent Aquatic, Aquatic Bed (depth less than 3 Meters)
6 Shrub swamp	Shrub Scrub (SS)	Shrub Carr, Alder Thicket
7 Wooded swamp	Wooded Swamp (WS) (Forested Wetland)	Wet/Wet-Mesic Deciduous Forests White Cedar Swamps
8 Bog	Bog (Bog)	Open Bog, Forested Bog

* Wetland types used for purposes of this bank system.
These should be refered to by name or by acronym (e.g. RPF, SM, AB, etc.)

** Red flag wetlands

STH 13 Cayuga Road to Jefferson Ave

APPENDIX D

SUMMARY OF DELINEATED WETLANDS

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-01-A	0.85	Wet Meadow	0.62	DP-02-A	A2, A3, D2, D5	F6	The wet meadow community was dominated by Scirpus atrovirens and Calamagrostis canadensis
		Wooded Swamp	0.23	DP-03-A, DP-04-A	A3, D2, D5	A1, A2, A3	The wooded swamp community was dominated by Abies balsamea, Populus tremuloides, Salix interior, Calamagrostis canadensis, Agrostis gigantea, and Solidago gigantea
W-01-B	1.67	Wet Meadow	1.48	DP-02-B	A2, A3, D2, D5	A11, F3	The wet meadow community was dominated by Phalaris arundinacea, Solidago gigantea, Carex lacustris, and Juncus effusus
		Shrub Scrub	0.18	DP-03-B	A1, A2, A3, D2, D5	A1	The shrub scrub community was dominated by Salix petiolaris, Phalaris arundinacea, and Glyceria grandis
W-02-A	0.08	Wet Meadow	0.08	DP-06-A	A3, D2, D5	S5	The wet meadow community was dominated by Juncus effusus
W-02-B	1.28	Wet Meadow	0.84	DP-05-B	A2, A3, D2, D5	A1	The wet meadow community was dominated by Spiraea alba and Carex lacustris
		Shrub Scrub	0.44	DP-06-B	A1, A2, A3, B3, B9, D2, D5	A1, A2	The shrub scrub community was dominated by Cornus racemosa, Alnus incana, and Carex lacustris
W-03-A	0.04	Wet Meadow	0.04	DP-07-A	A3, D2, D5	A11, F6	The wet meadow community was dominated by Calamagrostis canadensis
W-03-B	0.41	Wet Meadow	0.24	DP-08-B	A2, A3, D2, D5	F3	The wet meadow community was dominated by Juncus effusus and Calamagrostis canadensis
		Wooded Swamp	0.17	DP-09-B	A2, A3, D2, D5	A11, F3	The wooded swamp community was dominated by Abies balsamea, Populus tremuloides, Alnus incana, and Calamagrostris canadensis
W-04-A	0.1	Riparian Emergent Wetland	0.1	DP-09-A	A1, A2, A3, D2, D5	A2, S5	The riparian emergent wetland community was dominated by Carex crinita

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-04-B	0.92	Wet Meadow	0.72	DP-11-B	A1, A1, A3, B9, D2, D5	F3	The wet meadow community was dominated by Glyceria grandis and Calamagrostis canadensis
		Wooded Swamp	0.12	DP-12-B	A1, A2, A3, D2, D5	A1	The wooded swamp community was dominated by Acer rubrum, Abies balsamea, Populus tremuloides, Calamagrostis canadensis, and Carex crinita
		Shallow Marsh	0.08	DP-13-B	A1, A2, A3, D2, D5	A1	The shallow marsh community was dominated by Sagittaria latifolia and Calamagrostis canadensis
W-05-A	0.1	Wet Meadow	0.1	DP-12-A	A2, A3, D2, D5	F3	The wet meadow community was dominated by Scirpus atrovirens and Juncus effusus
W-05-B	0.24	Wet Meadow	0.13	DP-15-B	A2, A3, D2, D5	S5	The wet meadow community was dominated by Calamagrostis canadensis and Glyceria canadensis
		Wooded Swamp	0.11	DP-16-B	A1, A2, A3, D2, D5	A1, A2, A3	The wooded swamp community was dominated by Abies balsamea, Fraxinus nigra, Ulmus americana, Alnus incana, Calamagrostis canadensis, Elymus canadensis, and Onoclea sensibilis
W-06-A	0.08	Wet Meadow	0.08	DP-13-A	D2, D5	A11, F3	The wet meadow community was dominated by Calamagrostis canadensis
W-06-B	0.09	Wet Meadow	0.09	DP-18-B	A3, D2, D5	A11, F3	The wet meadow community was dominated by Juncus effusus and Carex bebbii
W-07-A	0.17	Wet Meadow	0.07	DP-16-A	D2, D5	A11, S5	The wet meadow community was dominated by Phalaris arundinacea
		Wooded Swamp	0.1	DP-15-A	A1, A2, A3, D2, D5	A3	The woooded swamp community was dominated by Fraxinus nigra, Ulmus americana, and Carex crinita.
W-07-B	0.59	Riparian Emergent Wetland	0.59	DP-20-B	A3, D2, D5	F3	The riparian emergent wetland community was dominated by Scirpus cyperinus and Solidago gigantea
W-08-A	0.16	Wet Meadow	0.07	DP-19-A	A2, A3, D2, D5	A11, F3	The wet meadow community was dominated by Phalaris arundinacea and Onoclea sensibilis.
		Wooded Swamp	0.05	DP-21-A	A1, A2, A3, D2, D5	A1, A2, A3	The wooded swamp community was dominated by Fraxinus nigra, Alnus incana, Impatiens capenswas, and Phalaris arundinacea
		Shrub Scrub	0.05	DP-20-A	A1, A2, A3, D2, D5	A1, A2, A3	The shrub scrub community was dominated by Alnus incana, Cornus alba, and Onoclea sensibilis.

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-08-B	0.17	Wet Meadow	0.17	DP-22-B	A1, A2, A3, D2, D5	A1	The wet meadow community was dominated by Calamagrostis canadensis
W-09-A	0.05	Wet Meadow	0.05	DP-23-A	A2, A3, D2, D5	F3	The wet meadow community was dominated by Scirpus atrovirens and Phalaris arundinacea
W-09-B	0.36	Wet Meadow	0.36	DP-24-B	A2, A3, D2, D5	A11, S5	The wet meadow community was dominated by Calamagrostis canadensis and Carex bebbii
W-10-A	0.04	Riparian Wooded Wetland	0.04	DP-26-A	A2, A3, D2, D5	A11, F3	The riparian wooded wetland community was domainted by Ulmus americana, Fraxinus nigra, and Onoclea sensibilis.
W-10-B	0.07	Wet Meadow	0.07	DP-26-B	A1, A2, A3, D2, D5	S5	The wet meadow community was dominated by Calamagrostis canadensis and Juncus effusus
W-11-A	0.04	Wet Meadow	0.04	DP-27-A	D2, D5	A11, S5	The wet meadow community was dominated by Calamagrostis canadensis
W-11-B	0.06	Wet Meadow	0.06	DP-28-B	A1, A2, A3, D2, D5	F3	The wet meadow community was dominated by Phalaris arundinacea and Scirpus atrovirens
W-12-A	0.14	Wet Meadow	0.14	DP-30-A	D2, D5	A1	The wet meadow community was dominated by Phalaris arundinacea
W-12-B	1.2	Wet Meadow	0.59	DP-31-B	A2, A3, D2, D5	S5	The wet meadow community was dominated by Phalaris arundinacea and Glyceria grandis
		Wooded Swamp	0.61	DP-30-B	A2, A3, D5	F6	The wooded swamp community was dominated by Fraxinus nigra, Betula alleghaniensis, Alnus incana, Ilex verticillata, Calamagrostis canadensis, and Carex crinita
W-13-A	0.55	Wet Meadow	0.3	DP-32-A	D2, D5	A11, F3	The wet meadow community was dominated by Juncus effusus, Euthamia graminifolia, and Symphyotrichum novae-angliae
		Shrub Scrub	0.25	DP-33-A	D2, D5	F3	The shrub scrub community was dominated by Alnus incana and Calamagrostis canadensis
W-13-B	0.42	Riparian Wooded Wetland	0.42	DP-33-B	A2, A3, D2, D5	S5	The riparian wooded wetland community was dominated by Abies balsamea, Alnus incana, Glyceria grandis, and Impatiens capensis
W-14-A	0.2	Wet Meadow	0.17	DP-34-A	D2, D5	F3	The wet meadow community was dominated by Phalaris arundinacea and Juncus effusus
		Shrub Scrub	0.03	DP-35-A	D2, D5	F3	The shrub scrub community was dominated by Populus tremuloides, Alnus incana, and Phalaris arundinacea

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-14-B	0.1	Riparian Emergent Wetland	0.1	DP-35-B	A2, A3, D2, D5	F3	The riparian emergent wetland community was dominated by Juncus effusus and Phalaris arundinacea
W-15-A	0.14	Wet Meadow	0.1	DP-38-A	D2, D5	S5	The wet meadow community was dominated by Phalaris arundinacea
		Shrub Scrub	0.04	DP-39-A	A2, A3, D2, D5	S6	The shrub scrub community was dominated by Alnus incana and Phalaris arundinacea
W-15-B	0.08	Wet Meadow	0.08	DP-37-B	A2, A3, D2, D5	F3	The wet meadow community was dominated by Salix petiolaris, Salix bebbiana, Scirpus atrovirens, and Impatiens capensis
W-16-A	0.85	Wet Meadow	0.63	DP-41-A	A3, D2, D5	F3	The wet meadow community was dominated by Calamagrostis canadensis
		Wooded Swamp	0.07	DP-43-A	D2, D5	A11, F3	The wooded swamp community was dominated by Populus tremuloides, Fraxinus nigra, Abies balsamea, Onoclea sensibilis, Maianthemum canadense, and Equisetum arvense
		Shrub Scrub	0.15	DP-42-A	A1, A2, A3, D2, D5	A2, A11	The shrub scrub community was dominated by Alnus incana and Calamagrostis canadensis
W-16-B	0.07	Wet Meadow	0.07	DP-38-B	A2, A3, D2, D5	A11, F3	The wet meadow community was dominated by Glyceria grandis and Scirpus cyperinus
W-17-A	0.06	Wet Meadow	0.06	DP-44-A	A1, A2, A3, D2, D5	F3	The wet meadow community was dominated by Salix bebbiana, Salix bebbiana, and Solidago gigantea

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-17-B	0.53	Wet Meadow	0.25	DP-41-B	D2, D5	A1	The wet meadow community was dominated by Glyceria canadensis and Calamagrostis canadensis
		Wooded Swamp	0.28	DP-42-B	D2, D5	A1	The wooded swamp community was dominated by Populus tremuloides, Acer rubrum, Ulmus americana, Alnus incana, Fraxinus nigra, Calamagrostis canadensis, and Glyceria canadensis
W-18-A	0.42	Wet Meadow	0.3	DP-47-A	A1, A2, A3, D2, D5	A1	The wet meadow community was dominated by Calamagrostis canadensis
		Wooded Swamp	0.12	DP-48-A	A2, A3, D2, D5	A11, F1, F3	The wooded swamp community was dominated by Acer rubrum, Populus tremuloides, Fraxinus nigra, Calamagrostis canadensis, and Onoclea sensibilis
W-18-B	0.15	Wet Meadow	0.15	DP-44-B	A3, D2, D5	S5	The wet meadow community was dominated by Scirpus atrovirens
W-19-A	0.07	Wet Meadow	0.07	DP-50-A	D2, D5	F3	The wet meadow community was dominated by Calamagrostis canadensis
W-19-B	0.25	Wet Meadow	0.09	DP-46-B	D2, D5	S5	The wet meadow community was dominated by Scirpus atrovirens and Carex bebbii
		Wooded Swamp	0.17	DP-47-B	A3, D2, D5	A1	The wooded swamp community was dominated by Abies balsamea, Acer rubrum, Alnus incana, and Glyceria canadensis
W-20-A	0.86	Riparian Emergent Wetland	0.86	DP-52-A	D2, D5	A11, S5	The riparian emergent wetland community was dominated by Calamagrostis canadensis
W-20-B	0.02	Wet Meadow	0.02	DP-49-B	D2, D5	S5	The wet meadow community was dominated by Phalaris arundinacea
W-21-A	0.04	Wet Meadow	0.04	DP-54-A	D2, D5	A11, F3	The wet meadow community was dominated by Calamagrostis canadensis and Carex bebbii

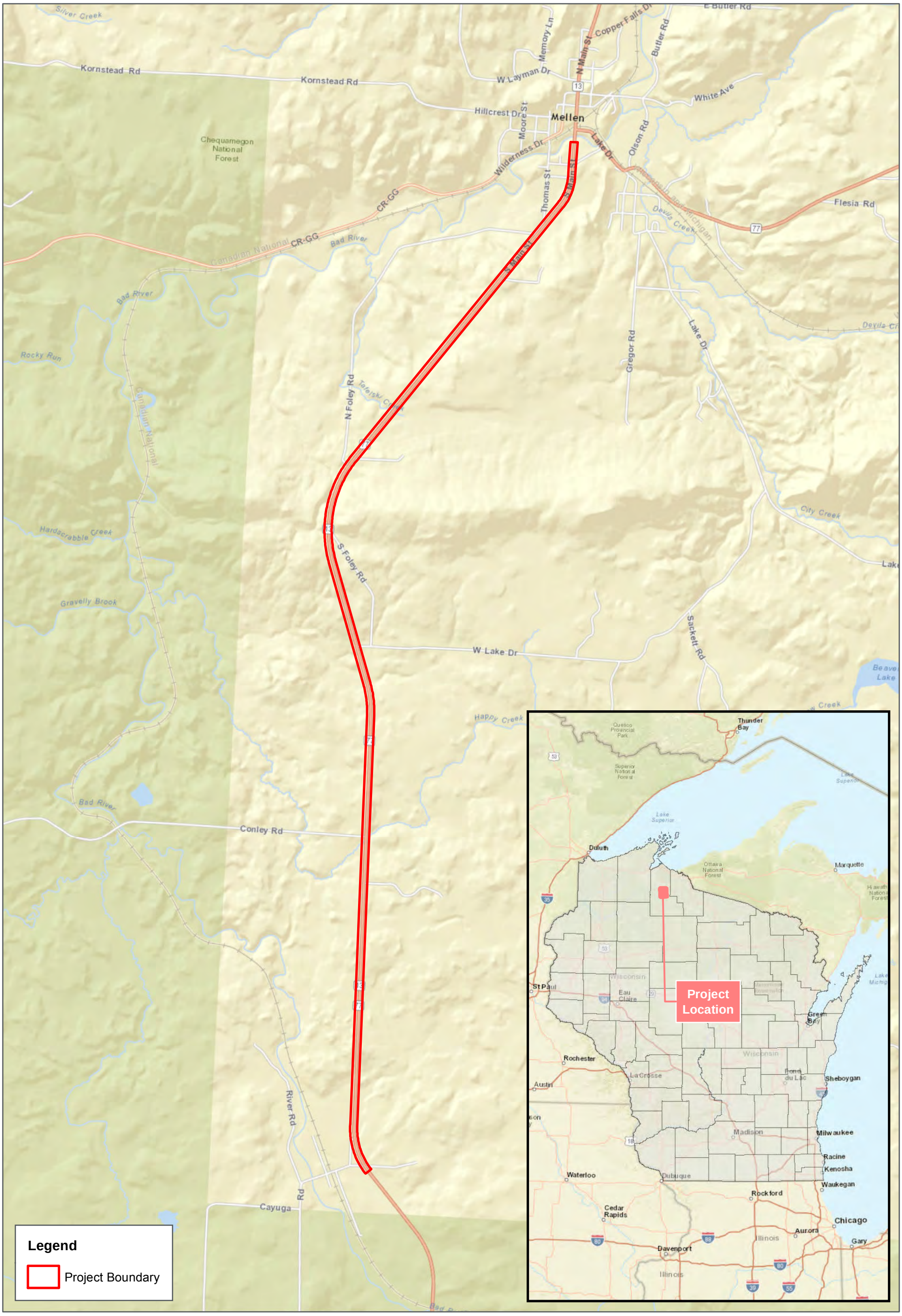
Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-21-B	0.36	Wet Meadow	0.26	DP-50-B	A1, A2, A3, D2, D5	A2, A3	The wet meadow community was dominated by Salix petiolaris, Spiraea alba, and Scirpus atrovirens
		Wooded Swamp	0.1	DP-51-B, DP-53-B	A1, A2, A3, D2, D5	A2, A12, S5	The wooded swamp community was dominated by Populus tremuloides, Acer rubrum,Fraxinus nigra, Alnus incana, Onoclea sensibilis, Carex crinita, Carex lacustris, and Calamagrostis canadensis
W-22-A	0.19	Wet Meadow	0.19	DP-55-A	A1, A2, A3, D5	F3	The wet meadow community was dominated by Scirpus atrovirens
W-22-B	0.18	Wet Meadow	0.18	DP-55-B	D2, D5	F3	The wet meadow community was dominated by Calamagrostis canadensis and Solidago gigantea
W-23-A	0.33	Wet Meadow	0.33	DP-57-A	A1, A2, A3, D2, D5	F3	The wet meadow c ommunity was dominated by Juncus canadensis and Euthamia graminifolia
W-23-B	0.79	Riparian Emergent Wetland	0.4	DP-57-B	D2, D5	F3	The riparian emergent wetland community was dominated by Calamagrostis canadensis
		Riparian Wooded Wetland	0.38	DP-58-B	A1, A2, A3, B9, D2, D5	A1	The riparian wooded wetland community was dominated by Fraxinus nigra, Alnus incana, Impatiens capensis, and Carex stricta
W-24-A	0.38	Wet Meadow	0.225	DP-59-A	D2, D5	A11, F3	The wet meadow community was dominated by Carex crinita and Carex bebbii
		Shrub Scrub	0.13	DP-60-A	A1, A2, A3, D2, D5	A1, A2	The shrub scrub community was dominated by Alnus incana, Carex lacustris, and Calamagrostis canadensis
W-24-B	0.11	Wet Meadow	0.07	DP-60-B	D2, D5	A1	The wet meadow community was dominated by Calamagrostis canadensis and Euthamia graminifolia
		Shrub Scrub	0.05	DP-61-B	A2, A3, D2, D5	A1	The shrub scrub community was dominated by Salix bebbiana, Larix laricina, Osmundastrum cinnamomeum, and Onoclea sensibilis
W-25-A	0.44	Wet Meadow	0.38	DP-62-A	A2, A3, D2, D5	A1	The wet meadow community was dominated by Carex lacustris and Typha latifolia
		Wooded Swamp	0.06	DP-63-A	A1, A2, A3, D2, D5	A3, A12	The wooded swamp community was dominated by Acer rubrum, Abies balsamea, Alnus incana, and Carex striata.

Wetland ID	Total Acres	Wetland Community Type	Acres within Project Area	Associated Data Point	Hydrology Indicator(s)	Hydric Soil Indicator(s)	Wetland Description
W-25-B	0.05	Wet Meadow	0.05	DP-63-B	A1, A2, A3, D2, D5	F3	The wet meadow community was dominated by Calamagrostis canadensis
W-26-A	0.38	Wet Meadow	0.29	DP-65-A	A2, A3, D2, D5	A11, S5	The wet meadow community was dominated by Alnus incana, Phalaris arundinacea, and Scirpus cyperinus
		Wooded Swamp	0.09	DP-66-A	A1, A2, A3, D2, D5	S5	The wooded swamp community was dominated by Populus balsamifera, Populus tremuloides, Abies balsamea, Alnus incana, Fraxinus nigra, Calamagrostis canadensis, and Carex gracillima
W-26-B	0.07	Wet Meadow	0.07	DP-65-B	A3, D2, D5	A11, F3	The wet meadow community was dominated by Phalaris arundinacea and Carex lacustris
W-27-A	1.65	Wet Meadow	0.165	DP-68-A	A2, A3, D2, D5	A1	The wet meadow community was dominated by Carex lacustris
W-27-B	0.61	Wet Meadow	0.57	DP-67-B	A2, A3, D2, D5	S5	The wet meadow community was dominated by Calamagrostis canadensis and Scirpus atrovirens
		Shrub Scrub	0.04	DP-68-B	A2, A3, D2, D5	F3	The shrub scrub community was dominated by Alnus incana, Salix bebbiana, Calamagrostis canadensis, Schoenoplectus tabernaemontani, and Glyceria canadensis
W-28-A	0.3	Wet Meadow	0.3	DP-70-A	A1, A2, A3, D5	S5	The wet meadow community was dominated by Scirpus cyperinus
W-29-A	0.07	Wet Meadow	0.07	DP-72-A	D2, D5	A12, F6	The wet meadow community was dominated by Solidago gigantea, Carex bebbii, and Carex crinita

STH 13 Cayuga Road to Jefferson Ave

FIGURE 1

Project Location



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project Location

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,500 3,000 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

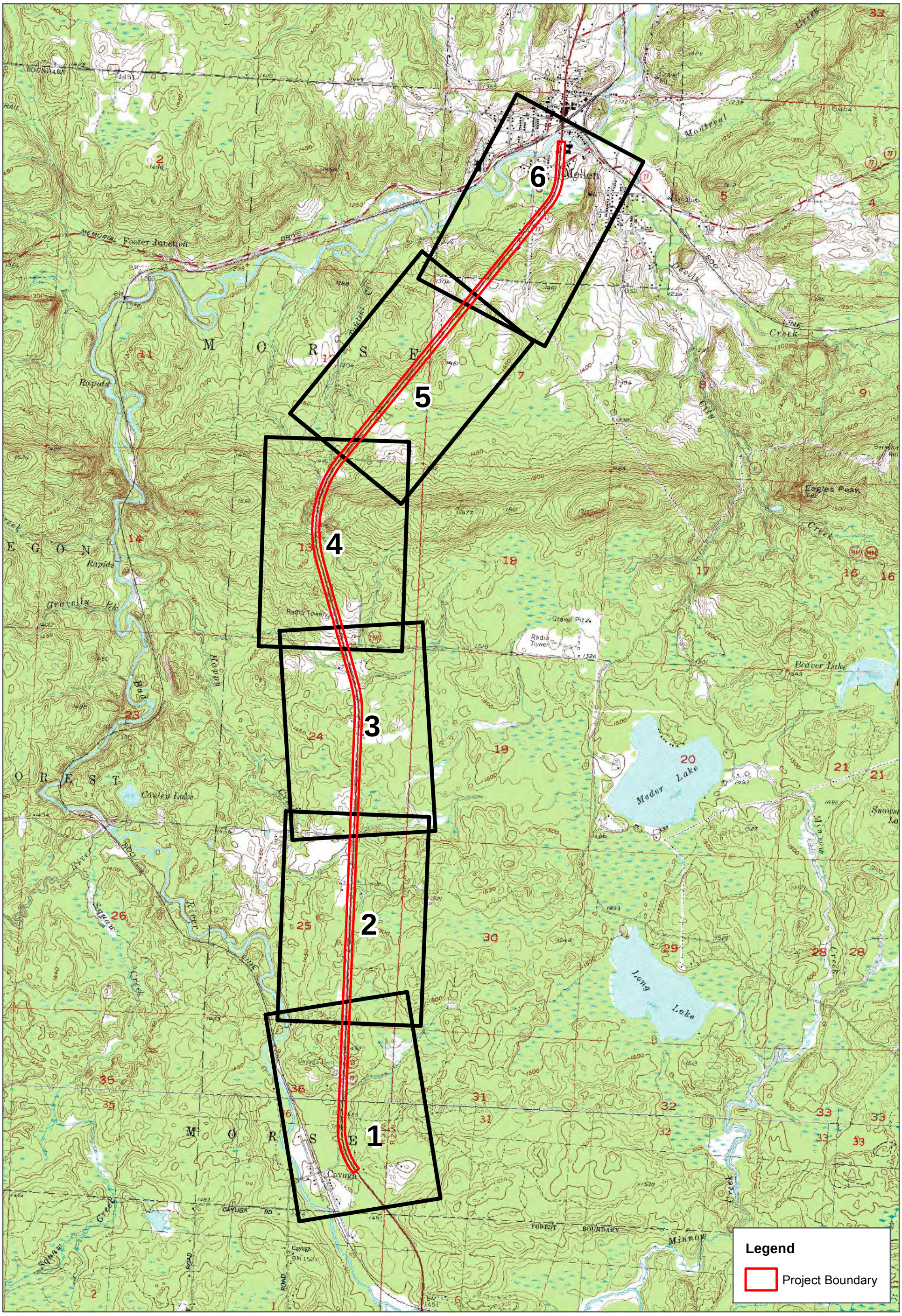
Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Project Location.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

STH 13 Cayuga Road to Jefferson Ave

FIGURE 2

Topographic Map



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Topographic Map

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

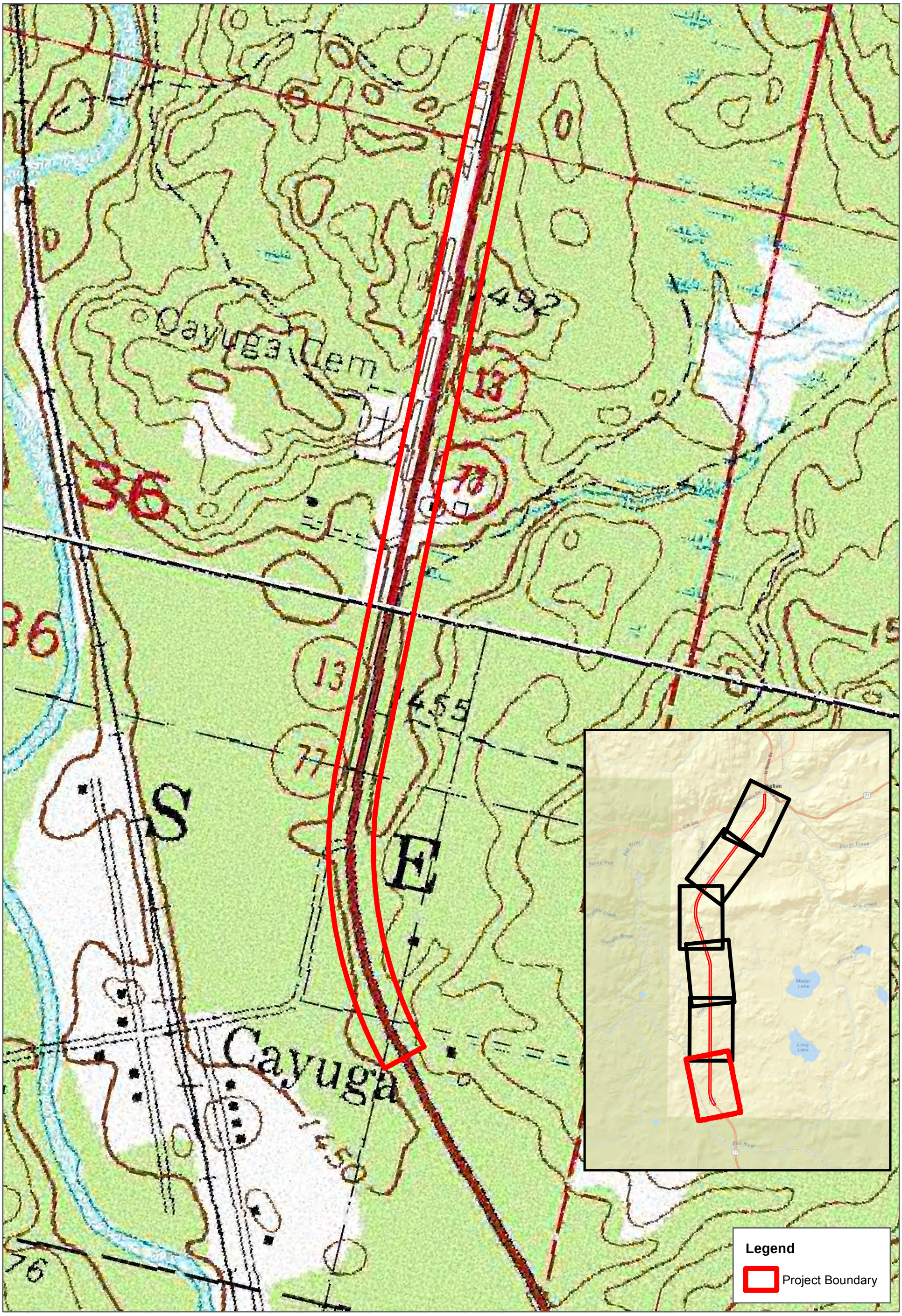
0 1,500 3,000 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Topographic Map - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Topographic Map

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

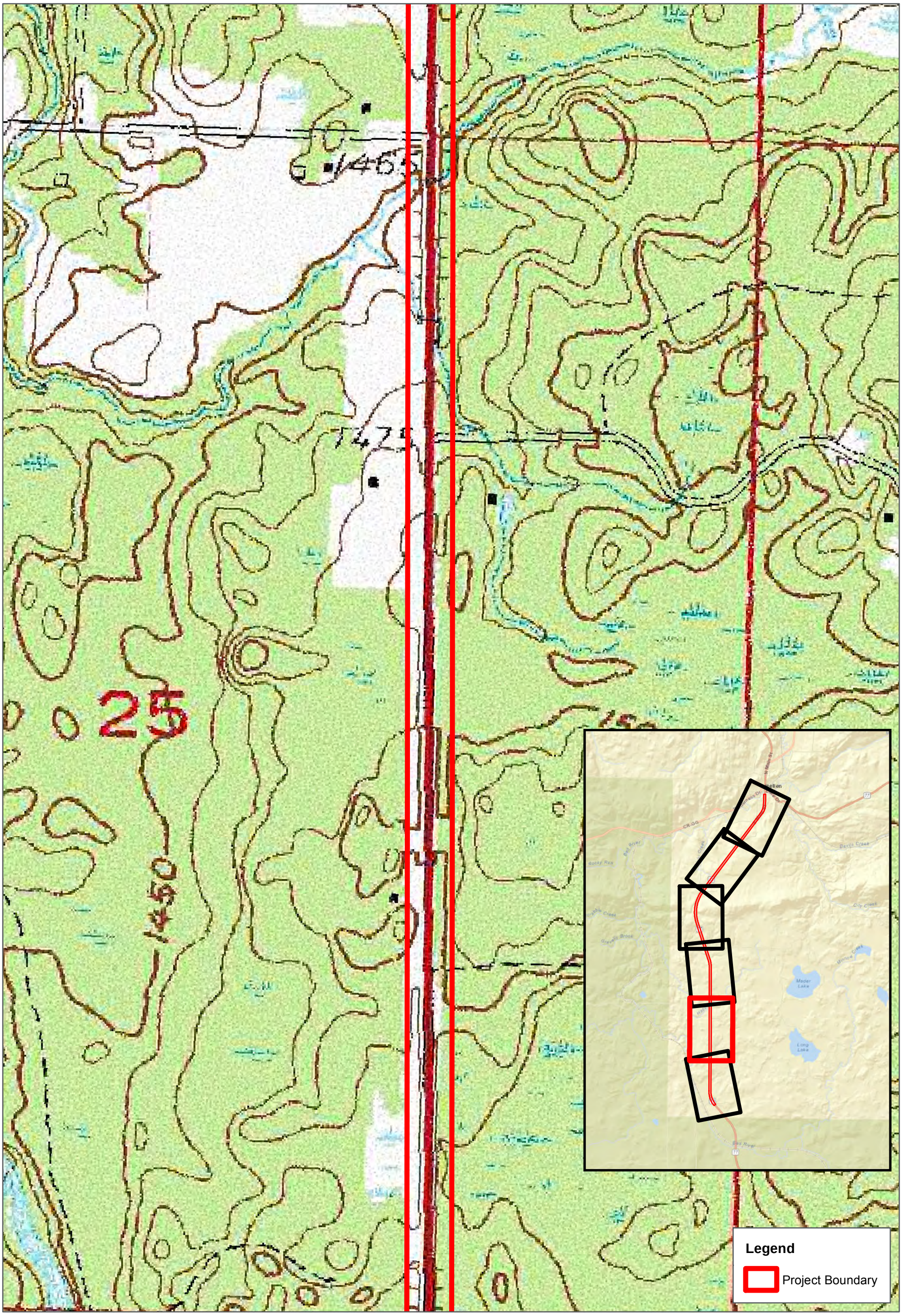
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Topographic Map.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Topographic Map

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

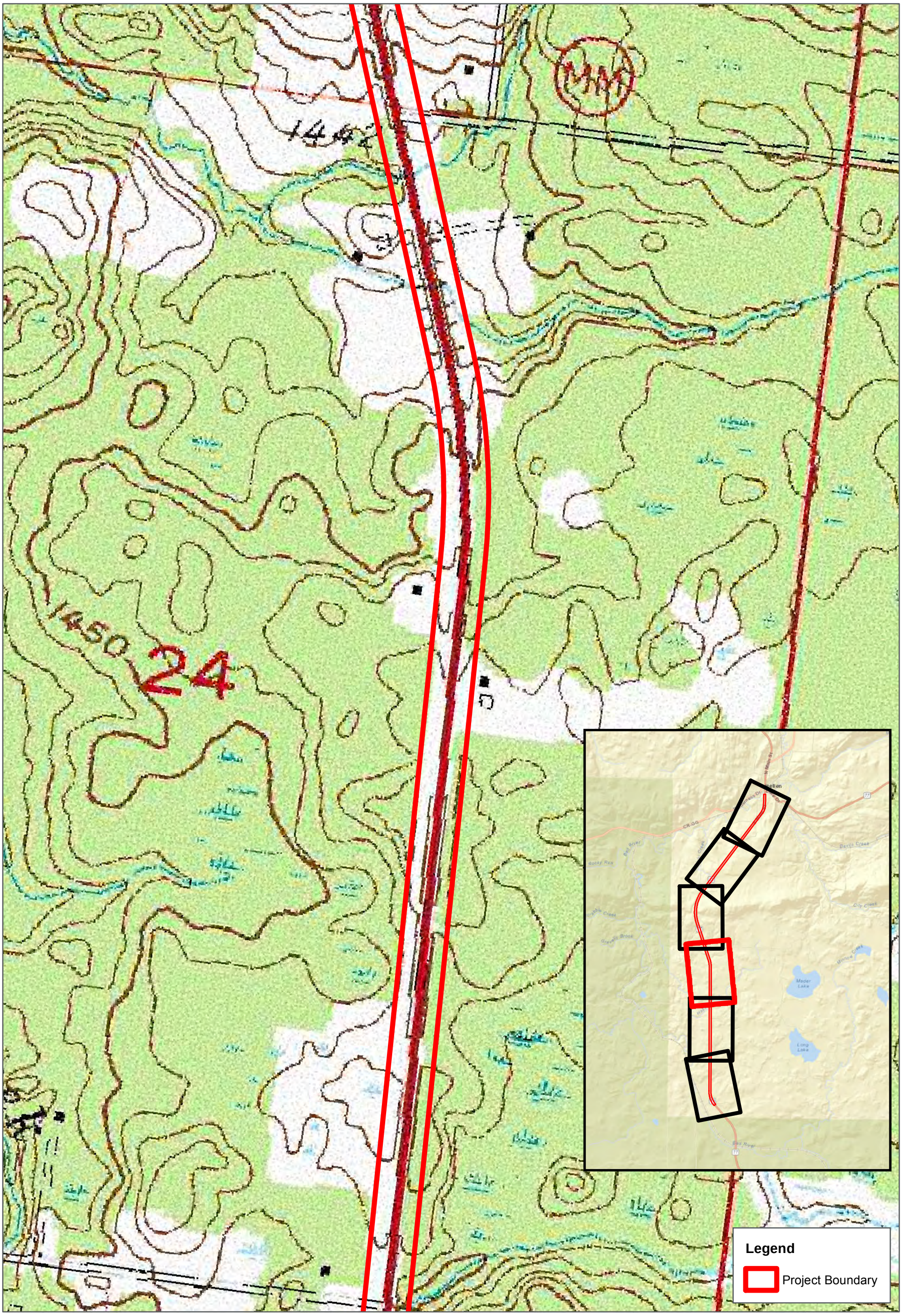
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Topographic Map.mxd

GIS Analyst: Alex Cohen

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Topographic Map

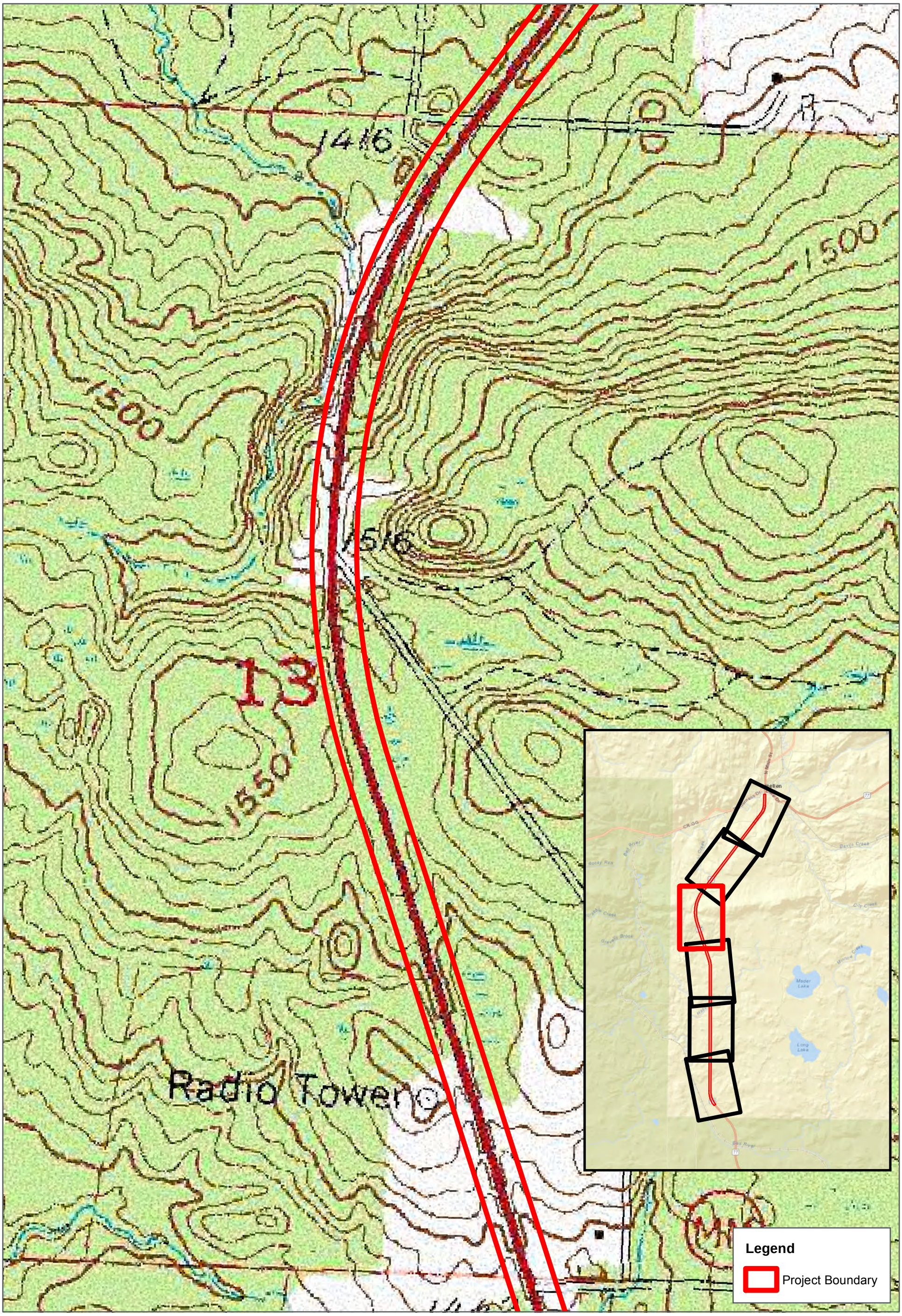
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Topographic Map.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Topographic Map

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

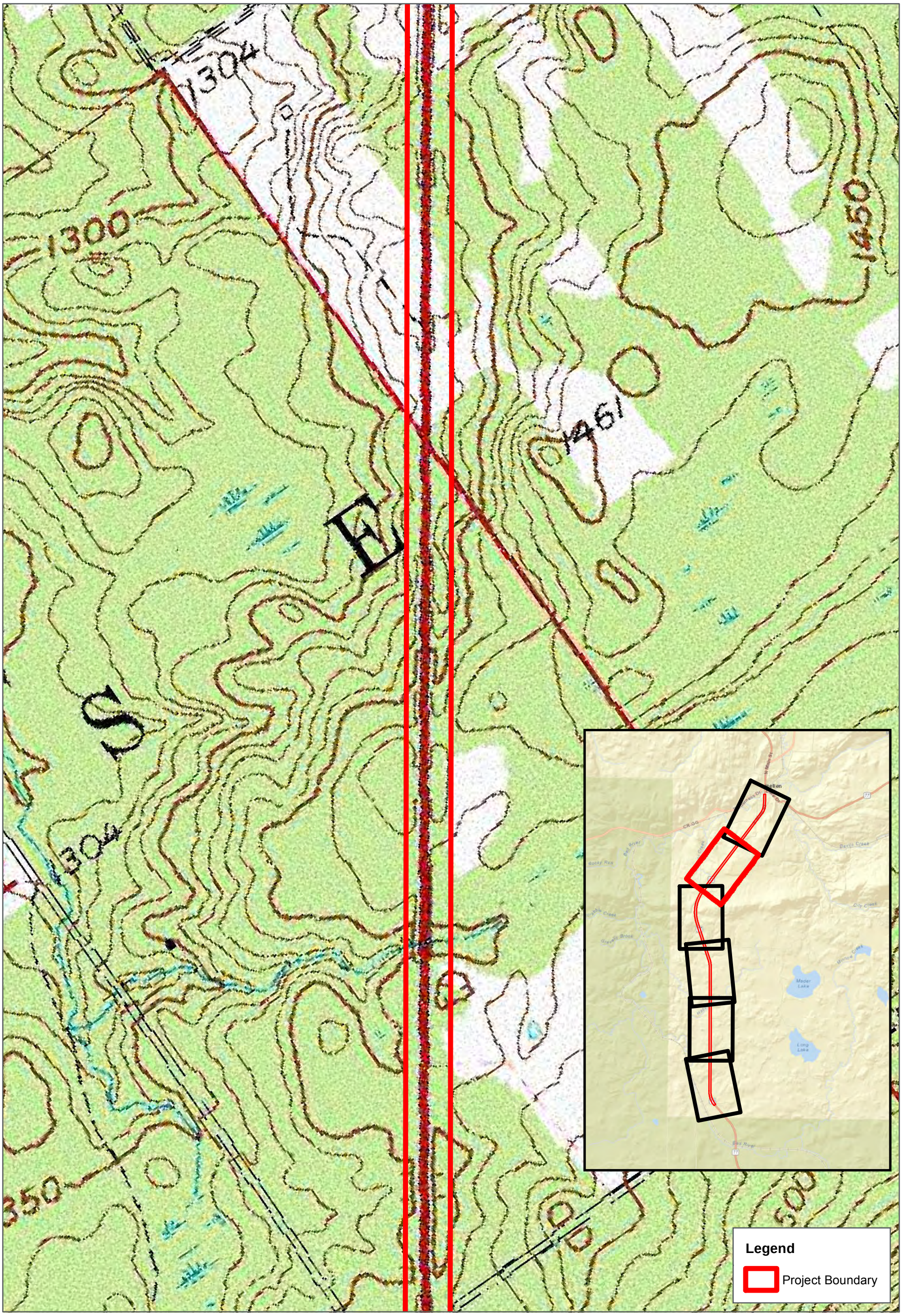
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Topographic Map.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



Topographic Map

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

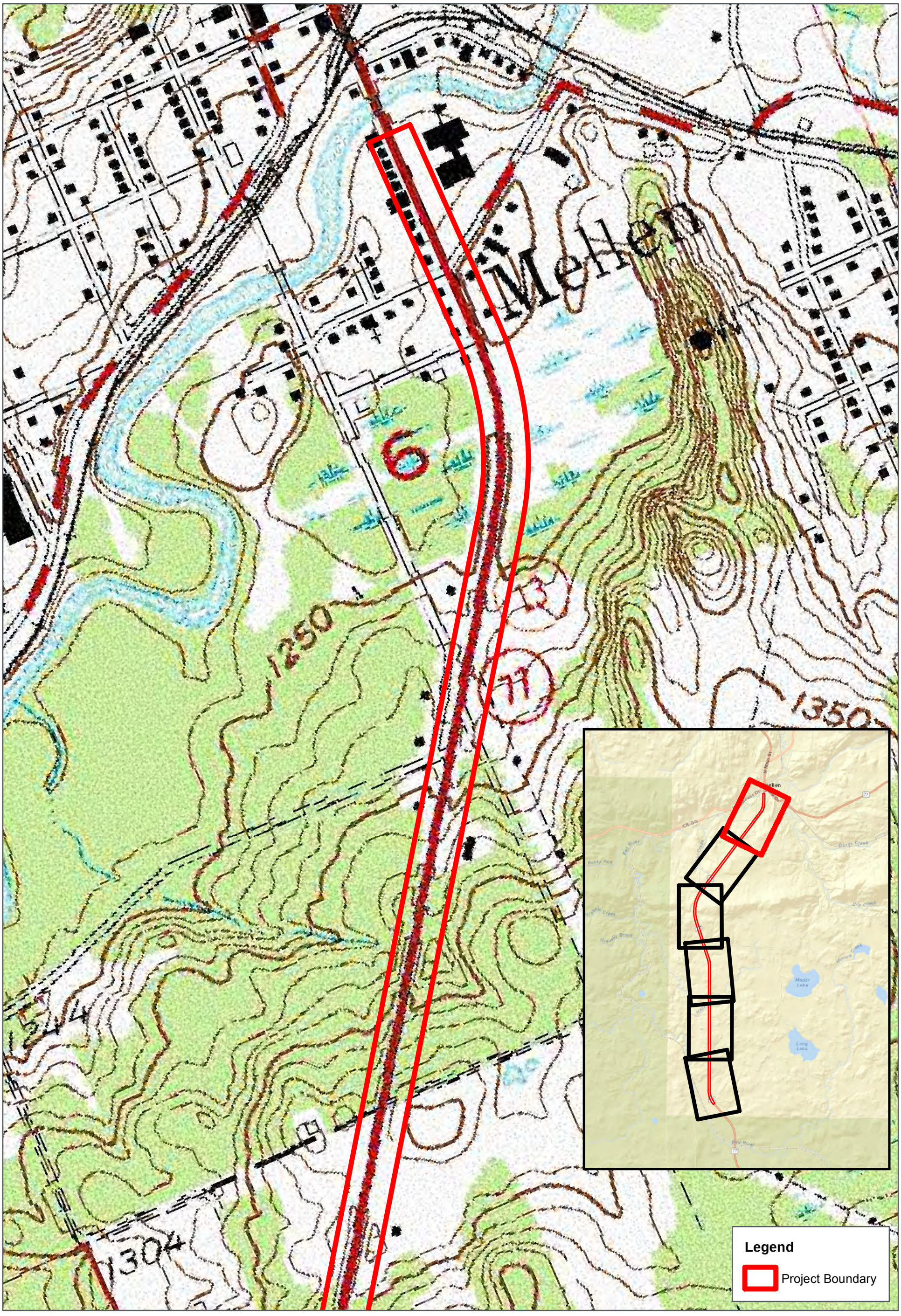
Project No. J157001M17

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Topographic Map.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
E
S
W

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M17

Topographic Map

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

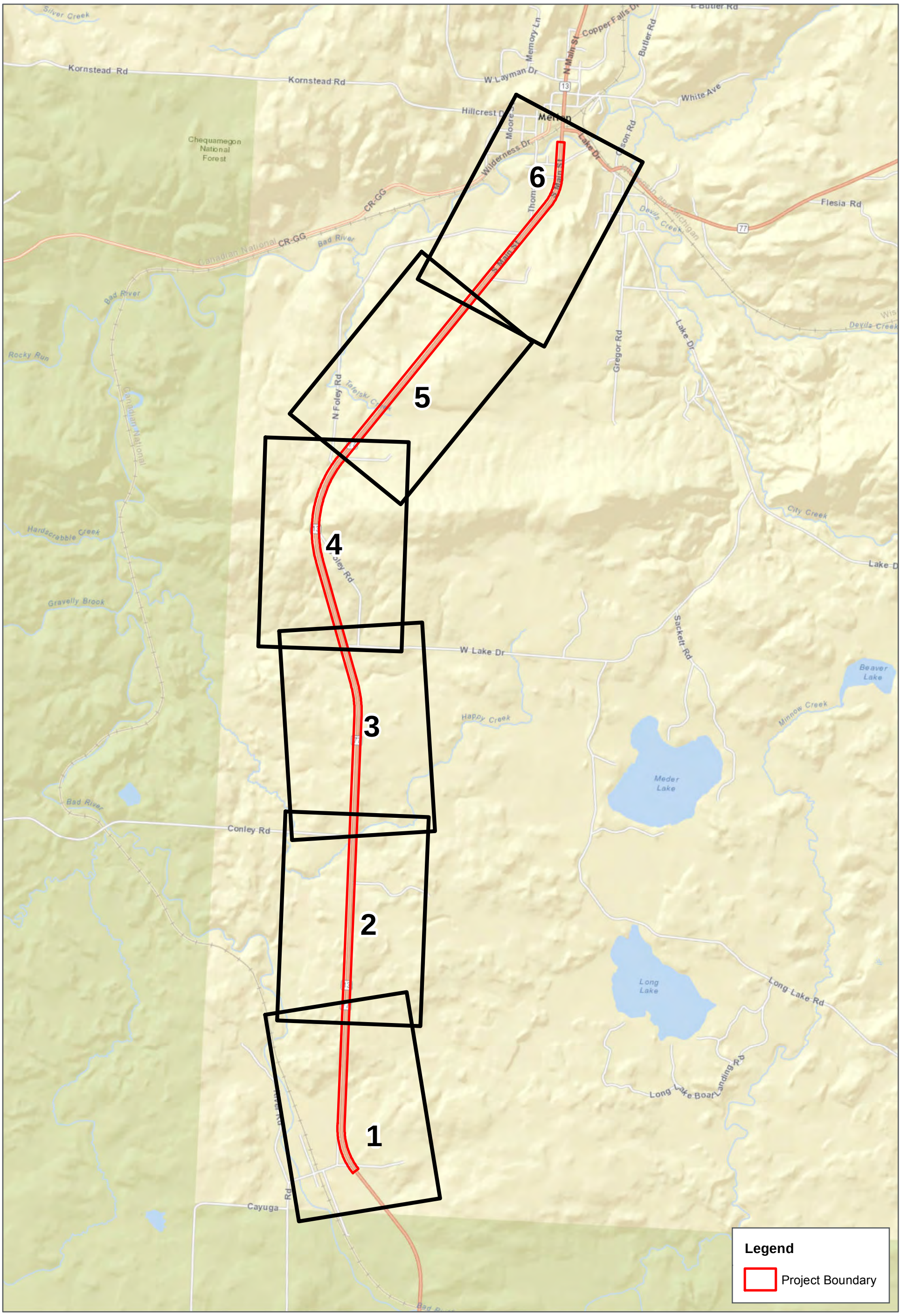
Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Topographic Map.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

STH 13 Cayuga Road to Jefferson Ave

FIGURE 3

Mapped Soil Units



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Mapped Soil Units

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

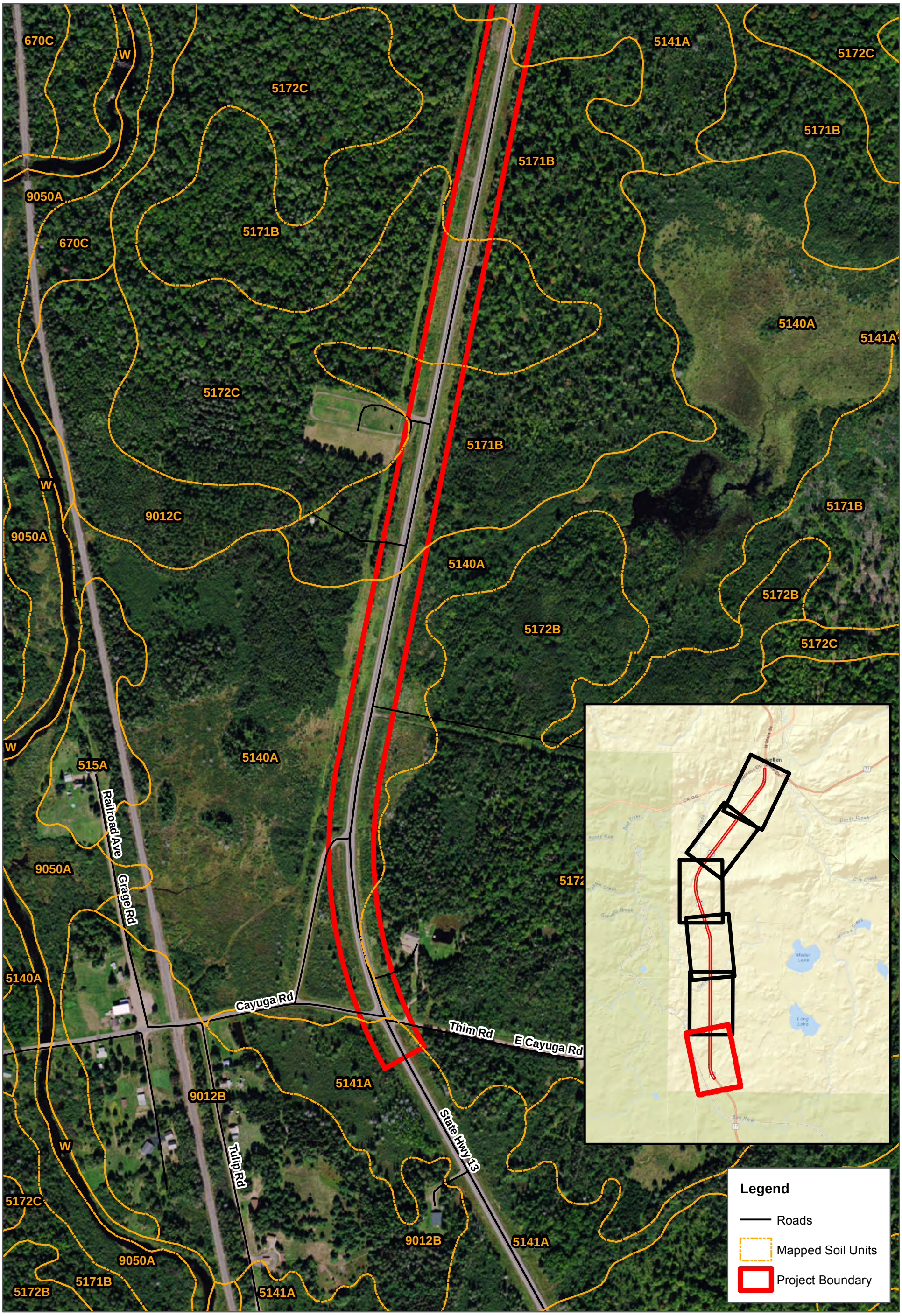
0 1,500 3,000 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Mapped Soil Units - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Mapped Soil Units

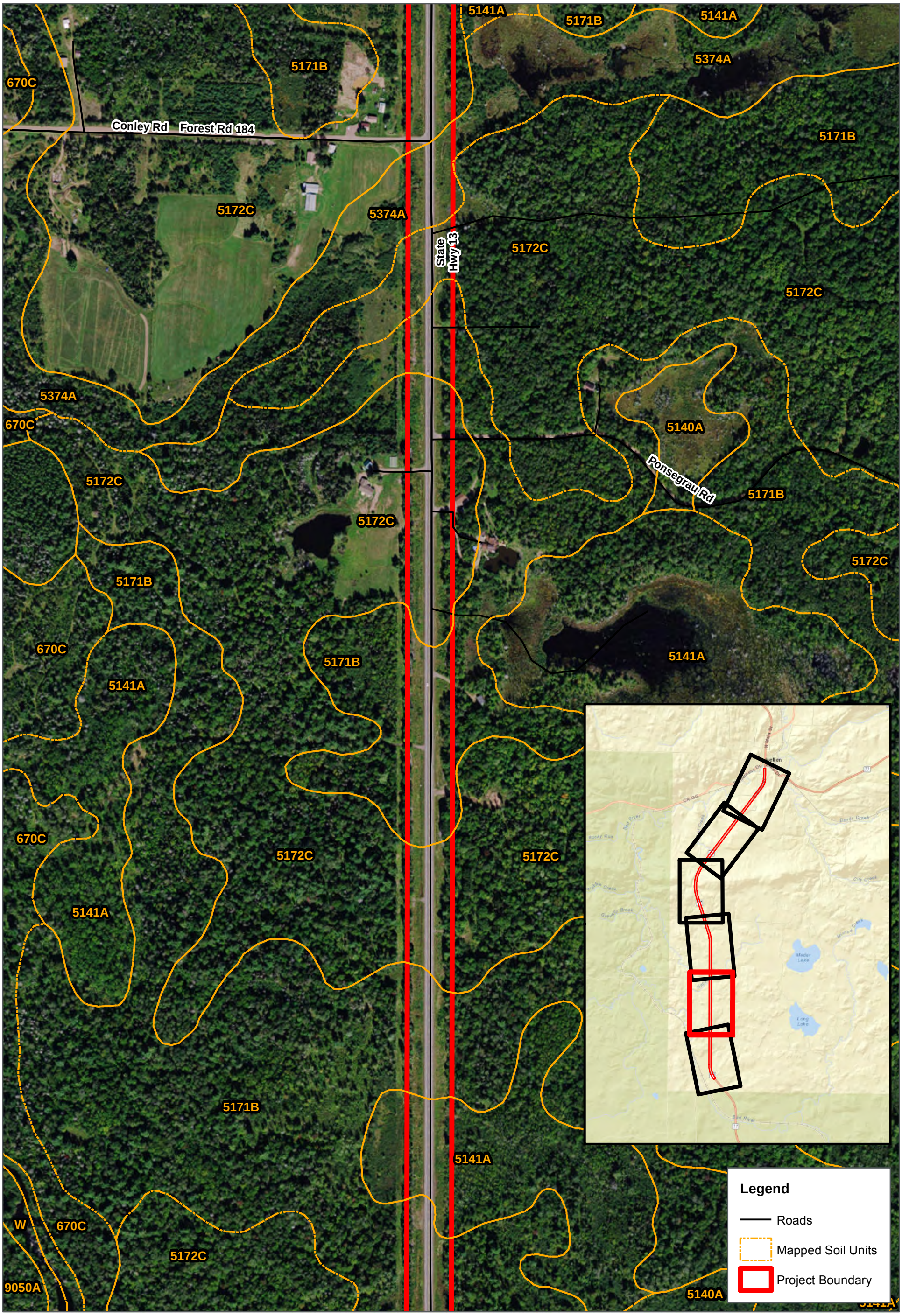
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Mapped Soil Units.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Mapped Soil Units

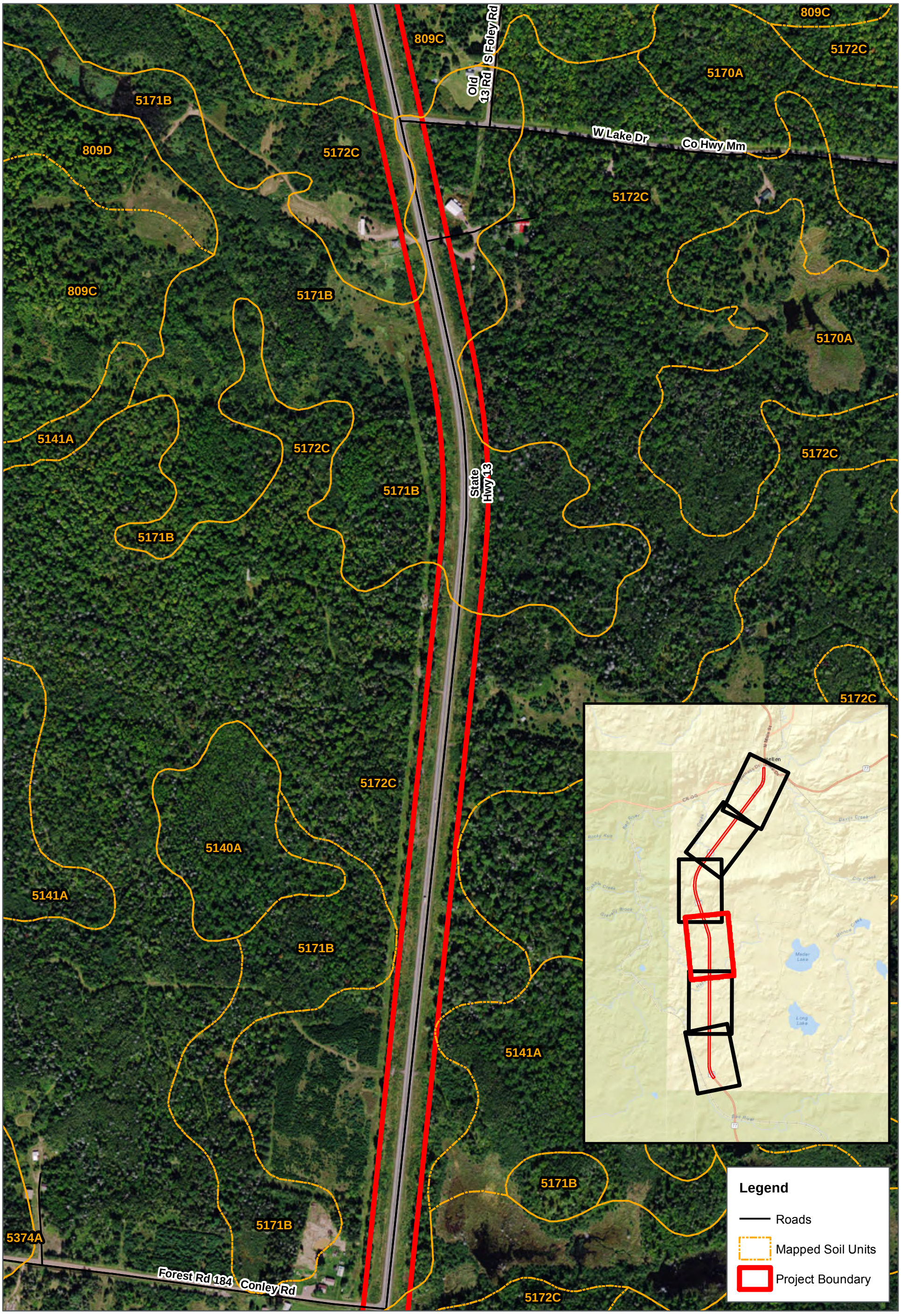
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Mapped Soil Units.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Mapped Soil Units

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

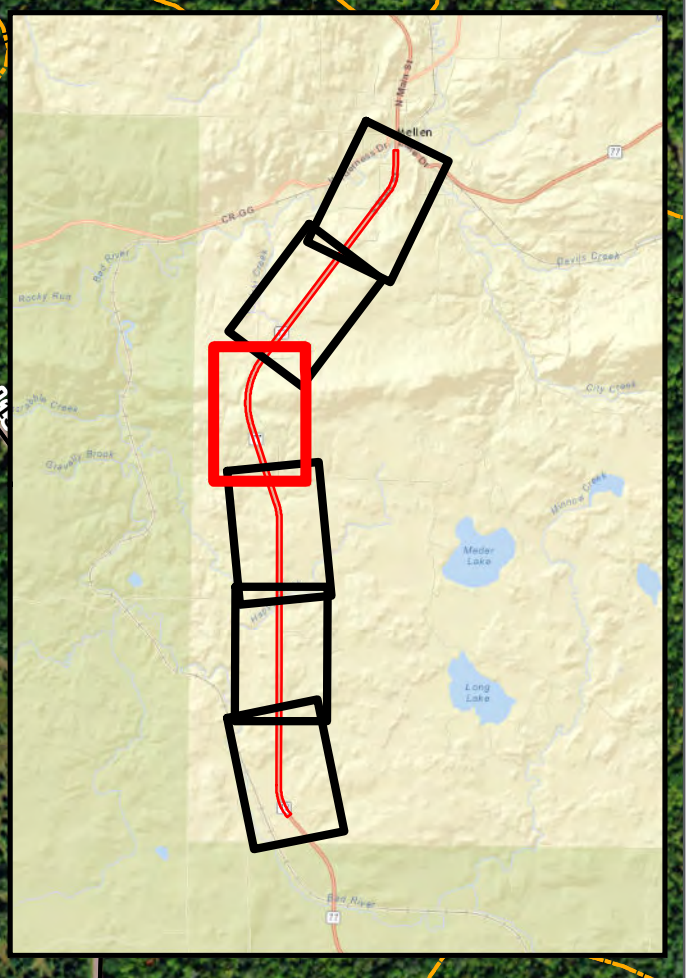
0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Mapped Soil Units.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

809C
5172C
Old 13 Rd
N Foley Rd
5172C
670C
670C
Tafelski Rd
5351C
809D
5351D
5171B
5351D
5351D
5351C
5171B
809D
5351D
5351C
5351B
State Hwy 13
5170A
809C
809D
S Foley Rd
Old 13
809C
5171B
5170A
5172C
5172C
5171B
809D
5171B
5172
Co Hwy Mm
W Lake



Legend

- Roads
- Mapped Soil Units
- Project Boundary

N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Mapped Soil Units

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

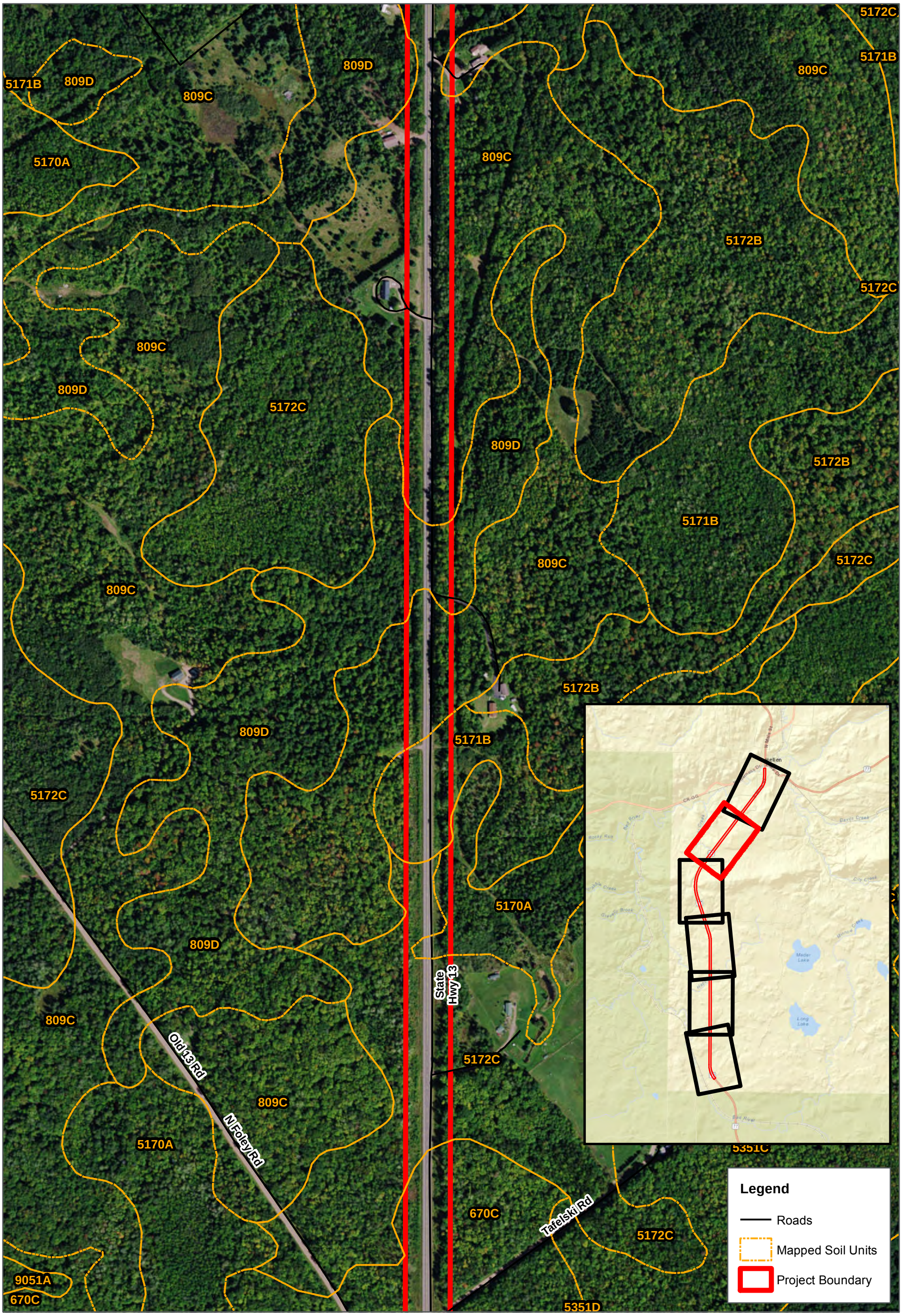
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Mapped Soil Units.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M17

Mapped Soil Units

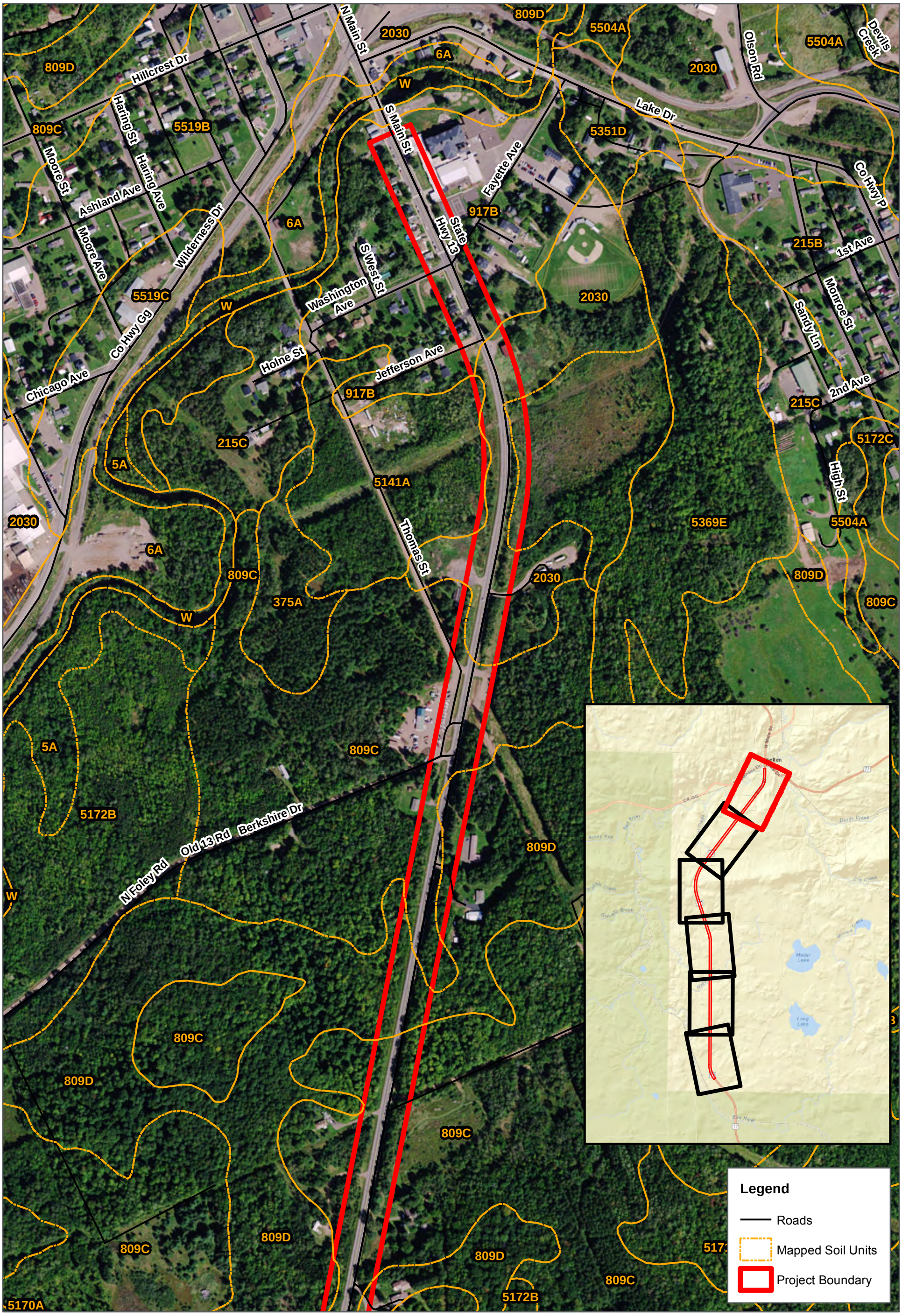
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Mapped Soil Units.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M17

Mapped Soil Units

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

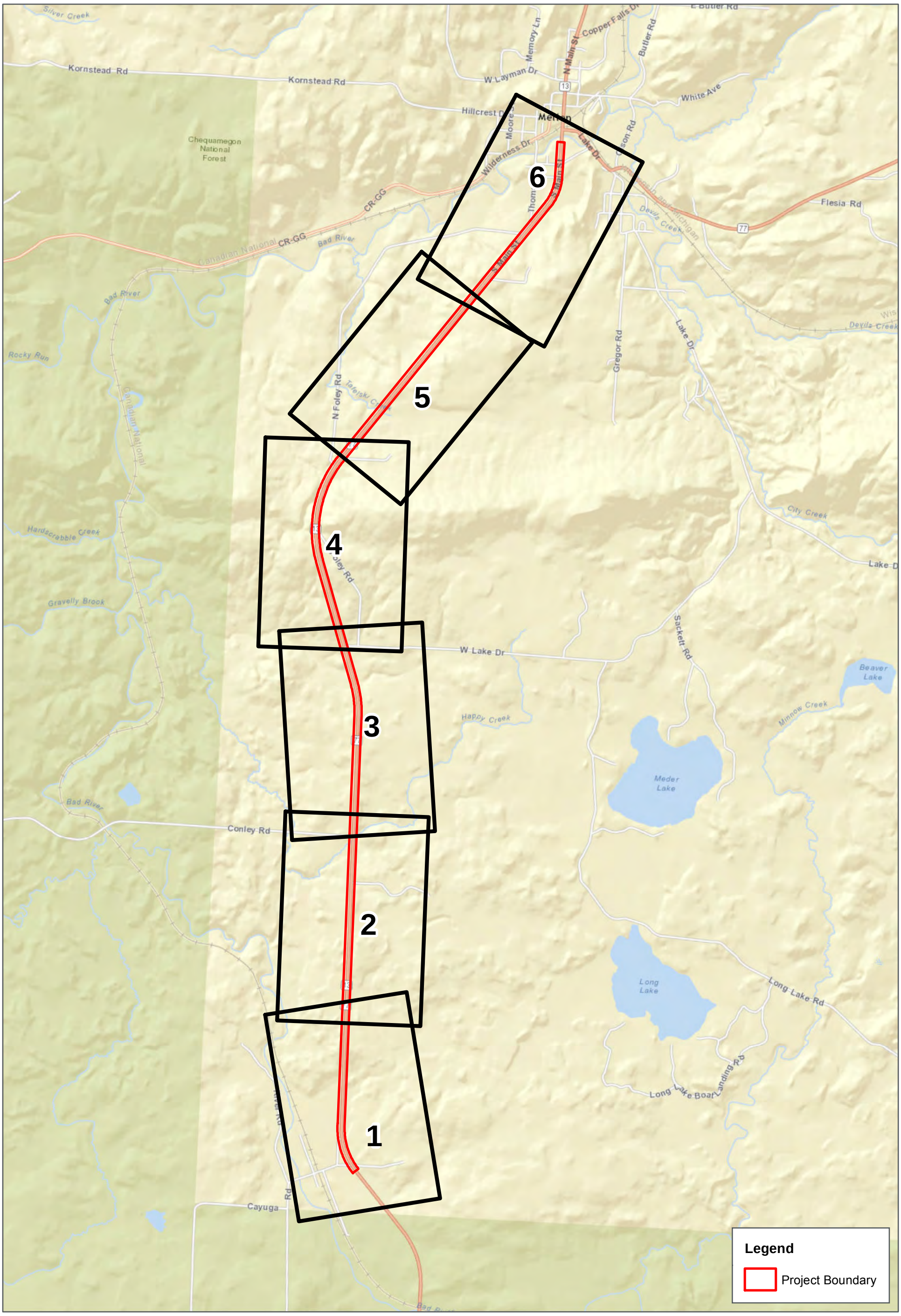
Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Mapped Soil Units.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

STH 13 Cayuga Road to Jefferson Ave

FIGURE 4

Wisconsin Wetlands Inventory



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Wisconsin Wetland Inventory

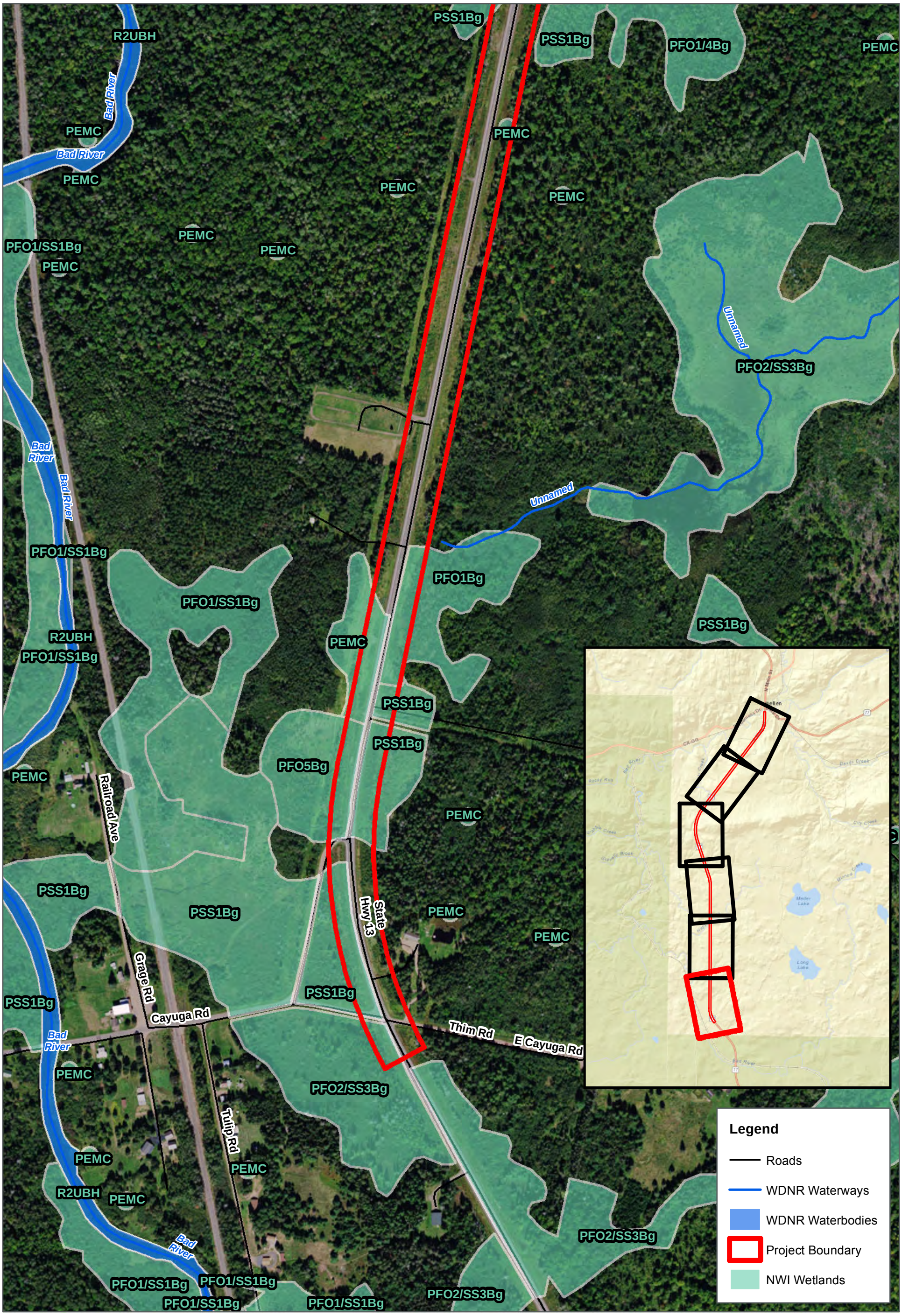
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,500 3,000 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Wisconsin Wetland Inventory - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Wisconsin Wetland Inventory

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

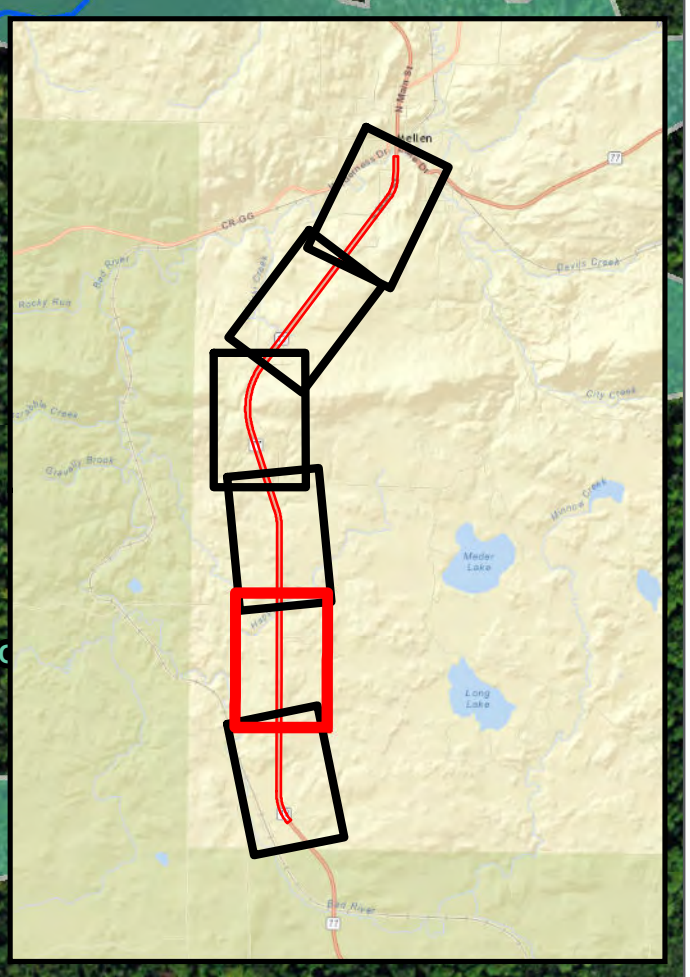
0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Wisconsin Wetland Inventory.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PEMC
PEMC
PEMC
PEMC
Happy Creek
Conley Rd
Forest Rd 184
Happy Creek
PEMC
Happy Creek
PEMC
State Hwy 13
PUBH
PFO1/SS1Bg
Unnamed
PFO2/EMBg
PEMC
PFO2Bg
Unnamed
Ponsegrau Rd
PSS1/EMBg
PEMC
PEMC
PEMC
Unnamed
NA
PEMC
PEMC
PEMC
PEMC
PFO1Bg
PEMC
PEMC
PSS1Bg
PSS1Bg
PFO1/4Bg
PEMC
Bad River
PEMC
Bad River
R2UBH
PEMC



Legend

- Roads
- WDNR Waterways
- WDNR Waterbodies
- Project Boundary
- NWI Wetlands

N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

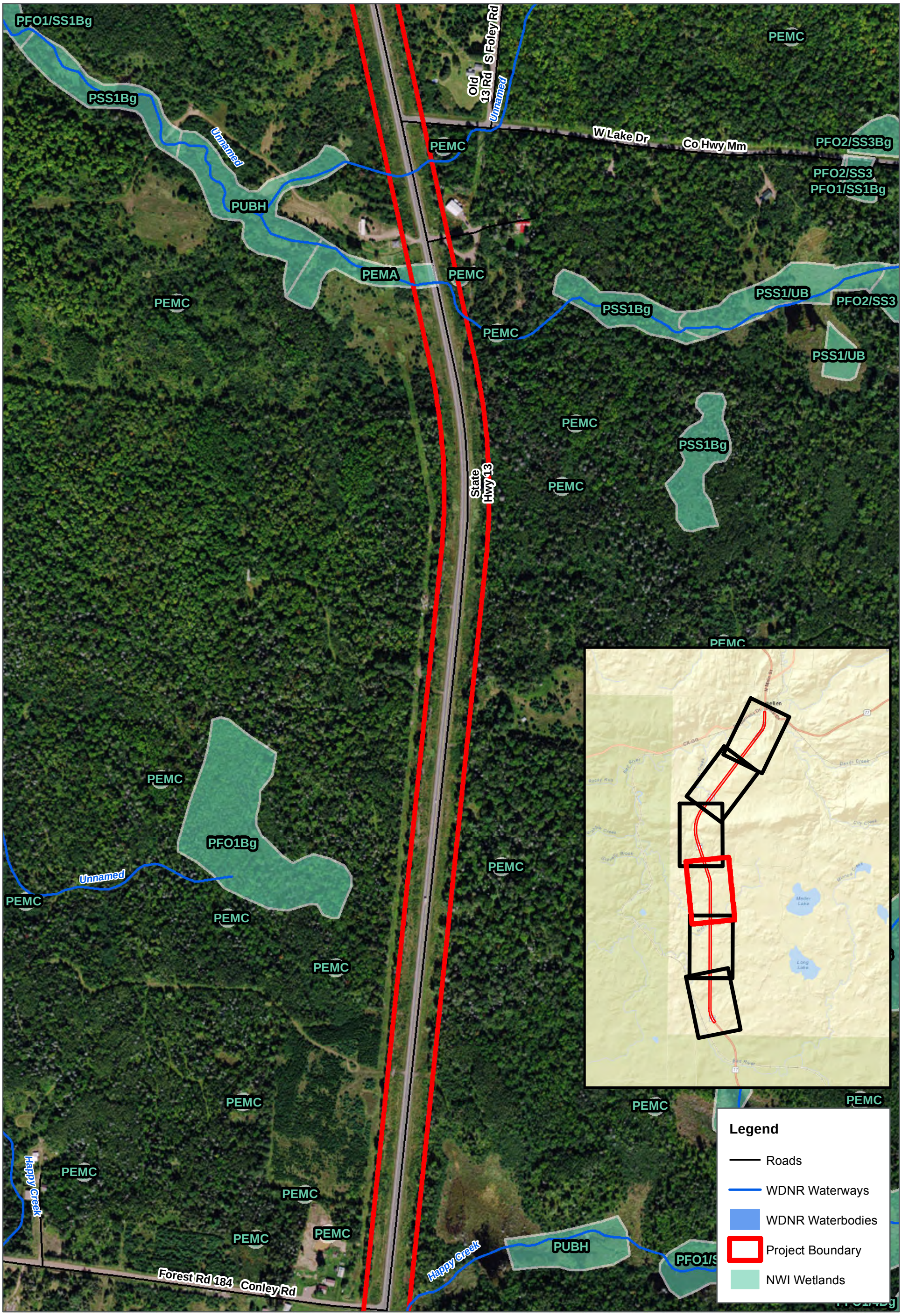
Wisconsin Wetland Inventory

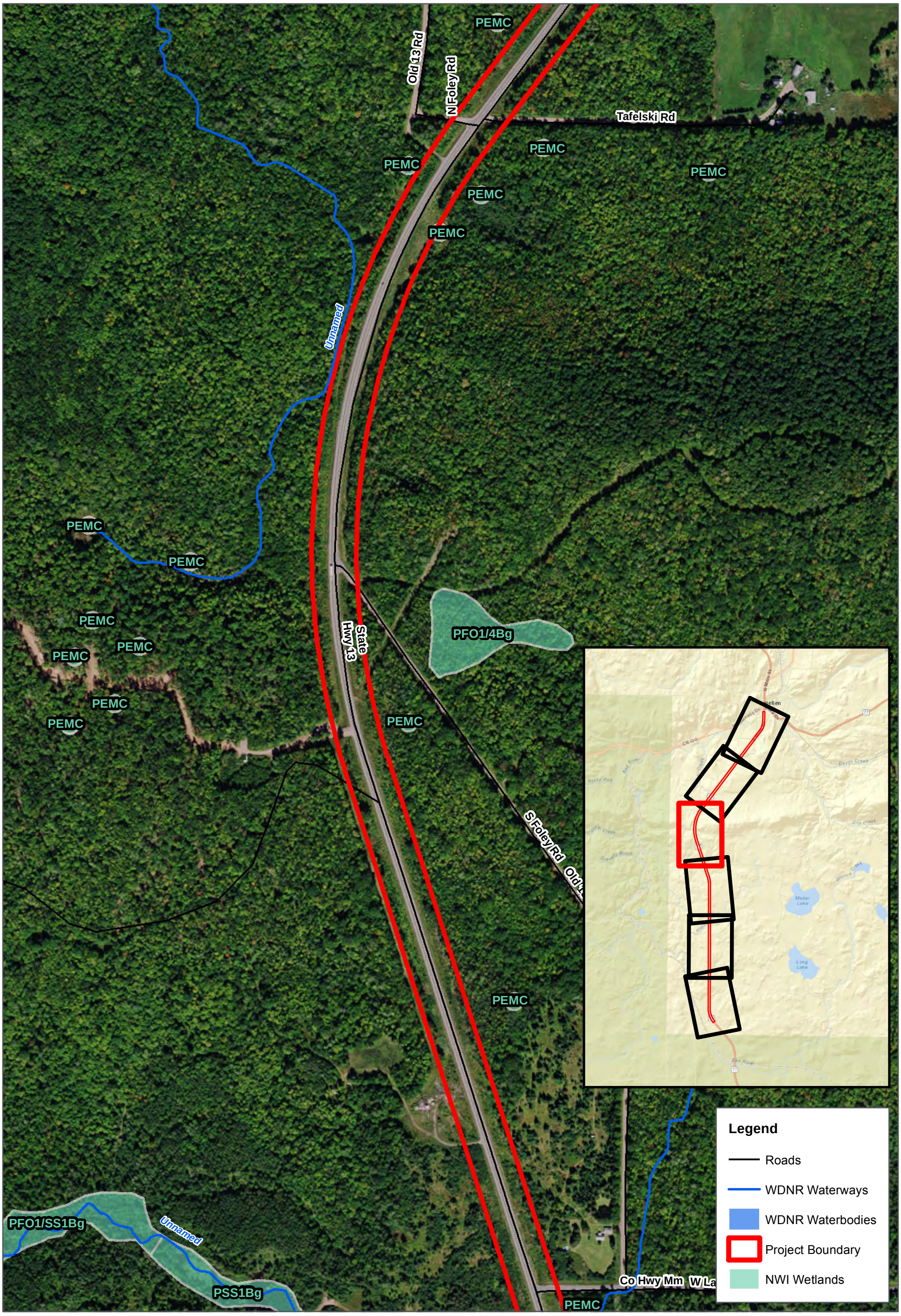
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Wisconsin Wetland Inventory.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen


PFO1/SS1Bg
PSS1Bg
Unnamed
PUBH
PEMA
PEMC
PEMC
PEMC


PEMC
Old 13 Rd
N Foley Rd
Tafelski Rd
PEMC
PEMC
PEMC
PEMC
Unnamed
PEMC
PEMC
PEMC
PEMC
PEMC
State Hwy 13
PFO1/4Bg
S Foley Rd
PEMC
PFO1/SS1Bg
Unnamed
PSS1Bg
PEMC
Co Hwy Mm
Legend
Roads
WDNR Waterways
WDNR Waterbodies
Project Boundary
NWI Wetlands
N
W
E
S
Project No. J157001M17
This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.
Wisconsin Wetland Inventory
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin
0
250
500 Feet
Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com
Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Wisconsin Wetland Inventory.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen

PEMC
PEMC
PEMC
PEMC
PEMC
PFO1/4Bg
PFO1Bg
PFO1/4Bg
PEMC
PFO1/4Bg
PEMC
PEMC
PEMC
Tafelski Creek
Unnamed
Old 13 Rd
N Foley Rd
PEMC
PEMC
PEMC
PEMC
PFO1Bg
PUBGh
State Hwy 13
PEMC
Tafelski Rd
PEMC
PEMC
CR GG
Devils Creek
Red River
Rocky Run
Gravelly Brook
City Creek
Monroe Creek
Medar Lake
Long Lake

Legend

- Roads
- WDNR Waterways
- WDNR Waterbodies
- Project Boundary
- NWI Wetlands

N E S W

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Wisconsin Wetland Inventory

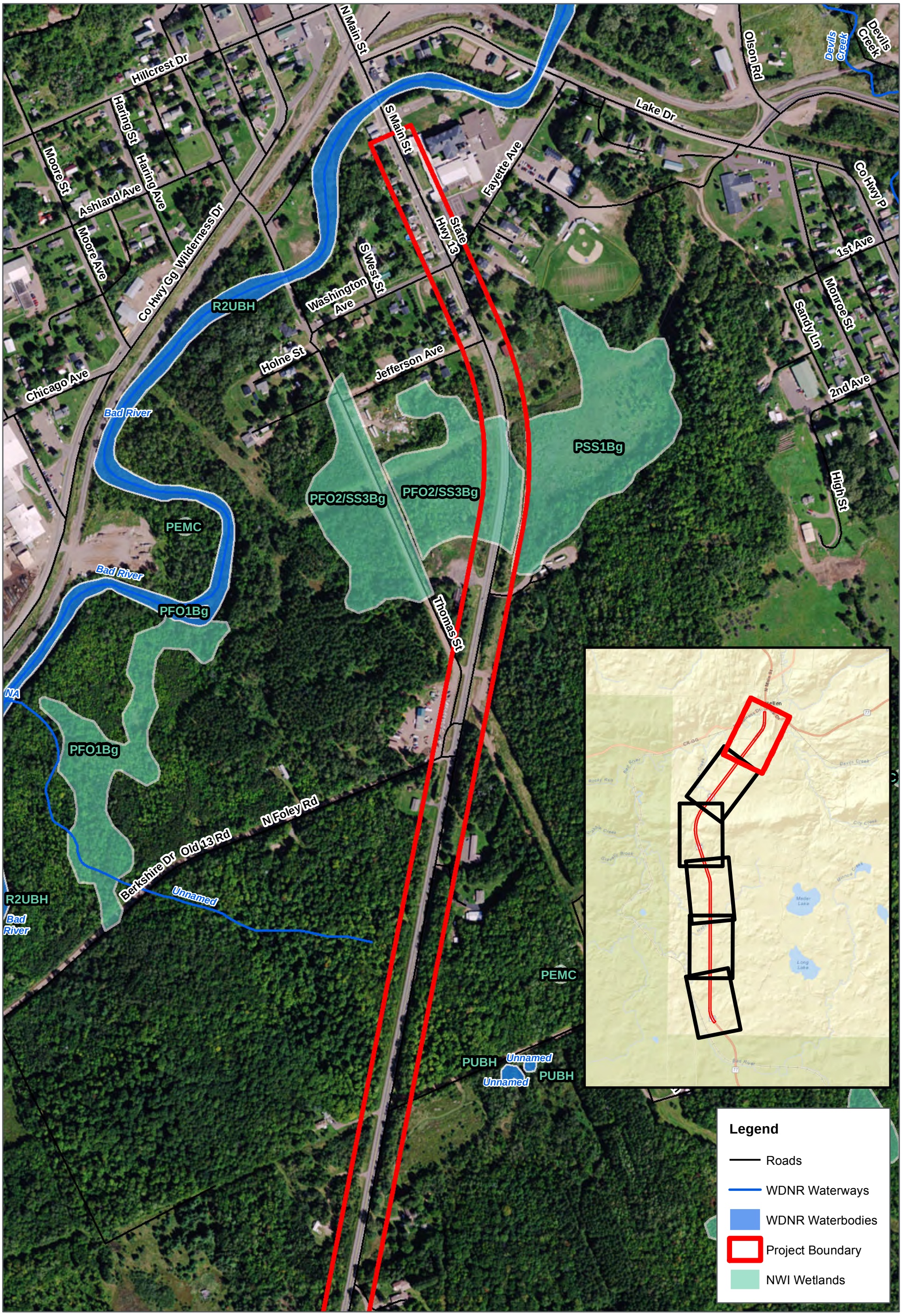
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Wisconsin Wetland Inventory.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M17

Wisconsin Wetland Inventory

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 250 500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

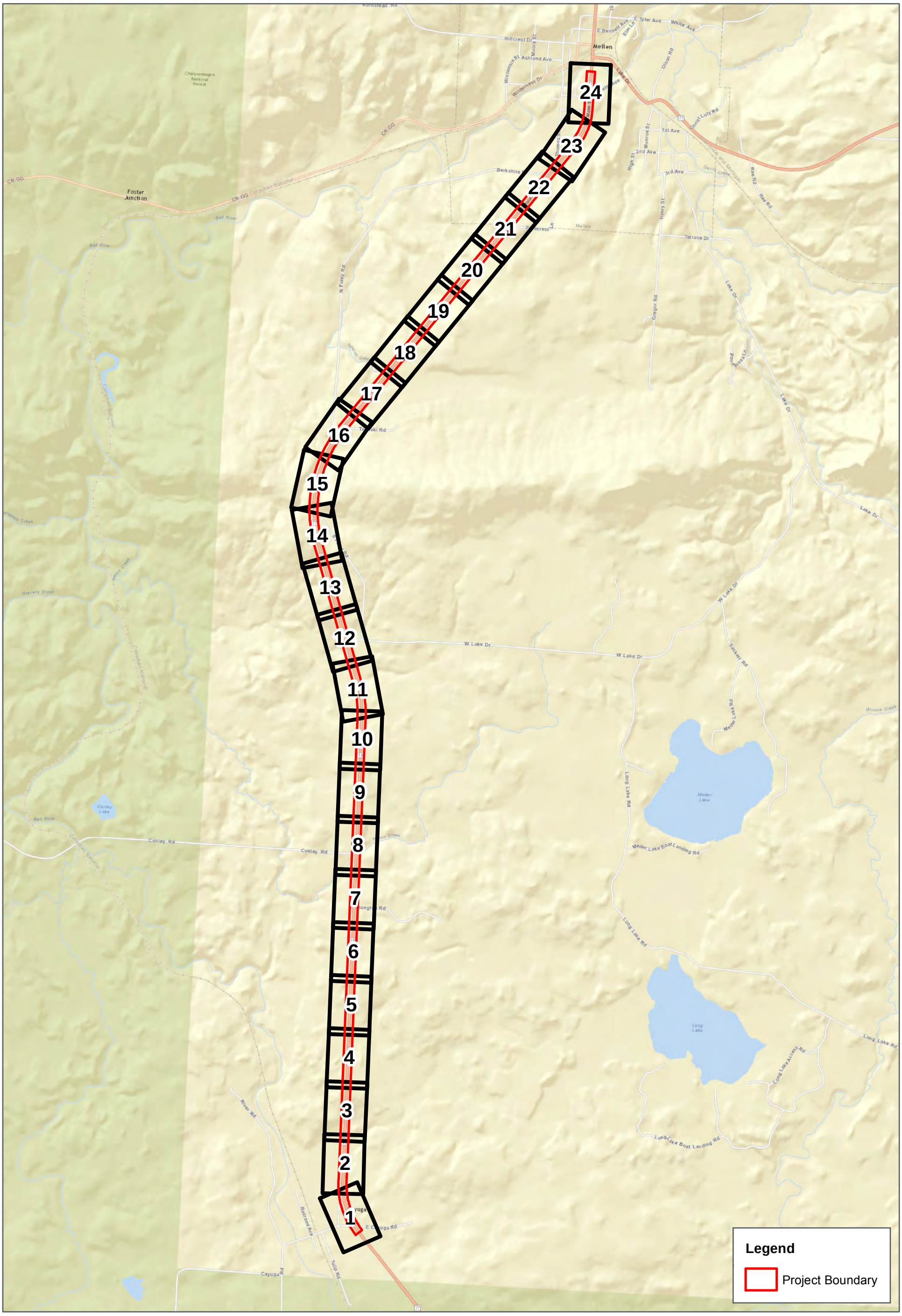
Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Wisconsin Wetland Inventory.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

STH 13 Cayuga Road to Jefferson Ave

FIGURE 5

Delineated Wetlands and Waterways



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

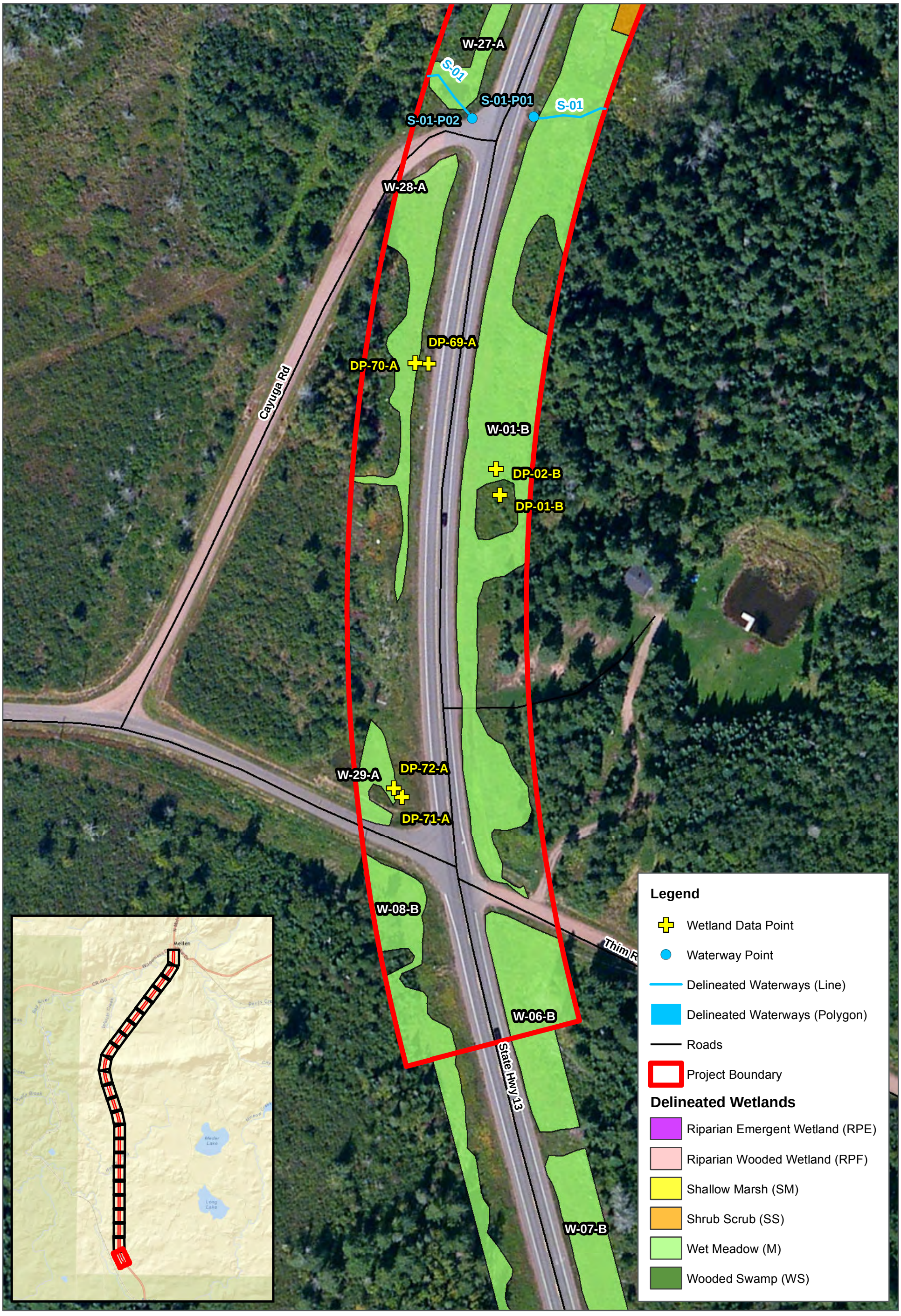
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,250 2,500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

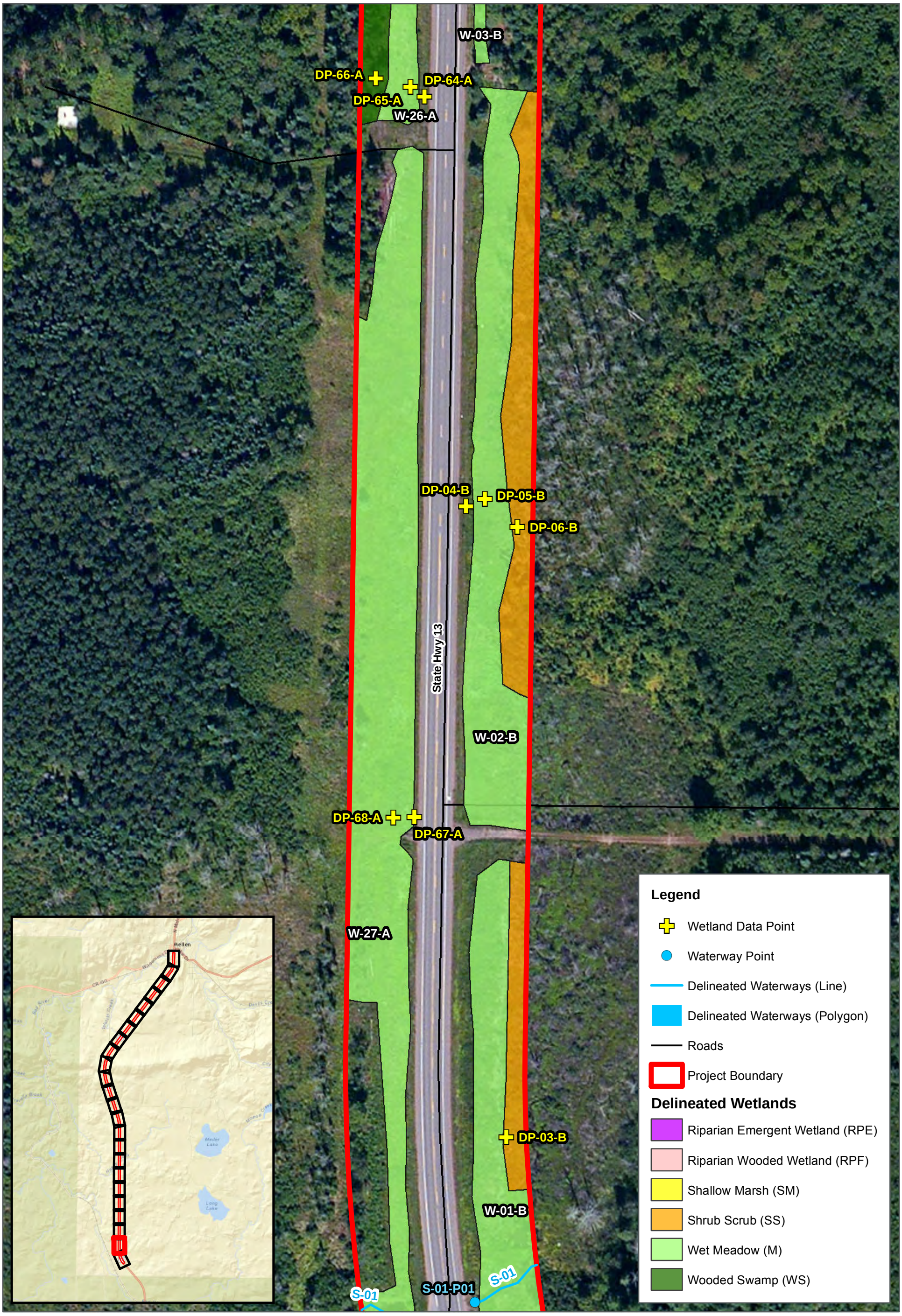
Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

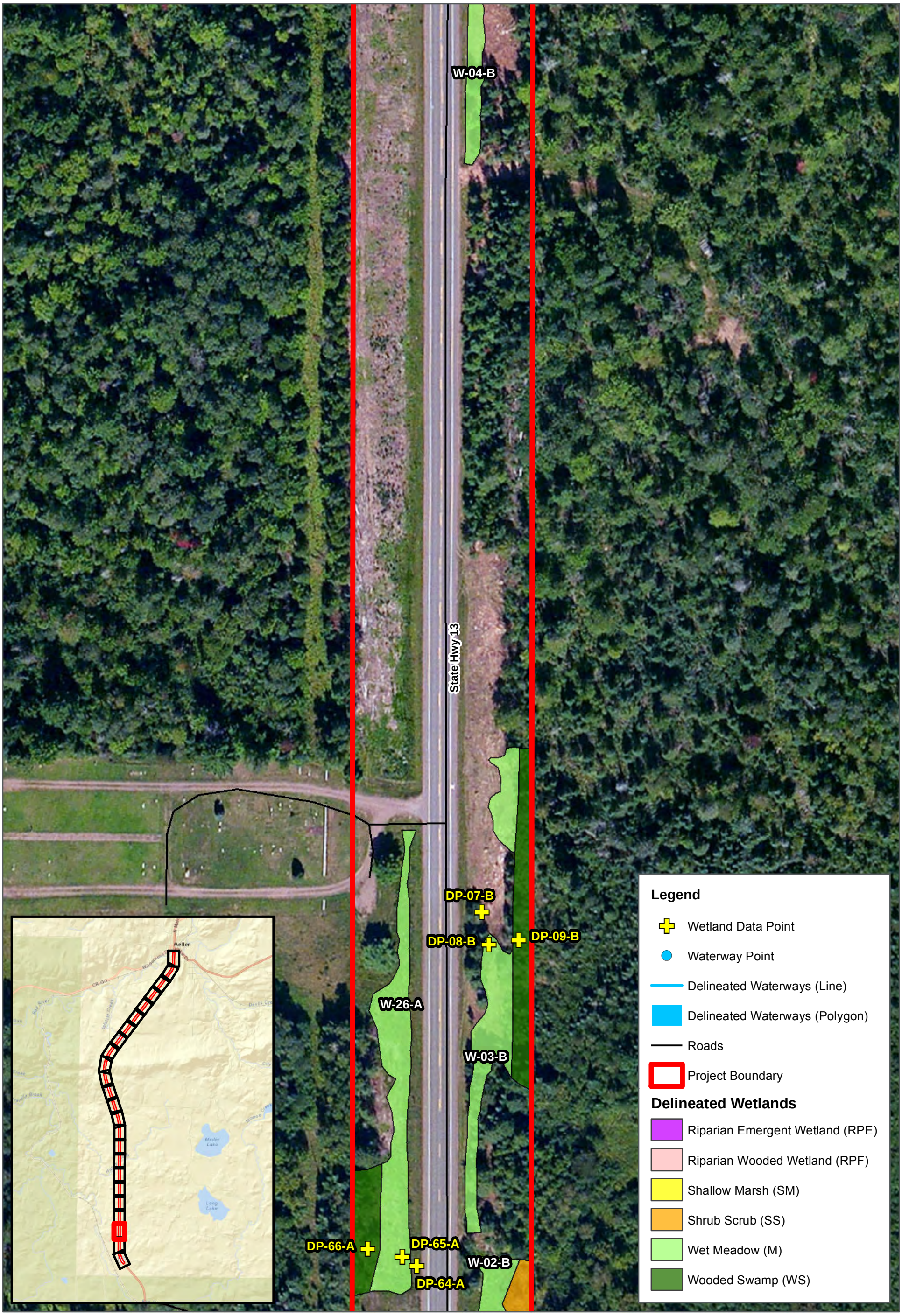
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

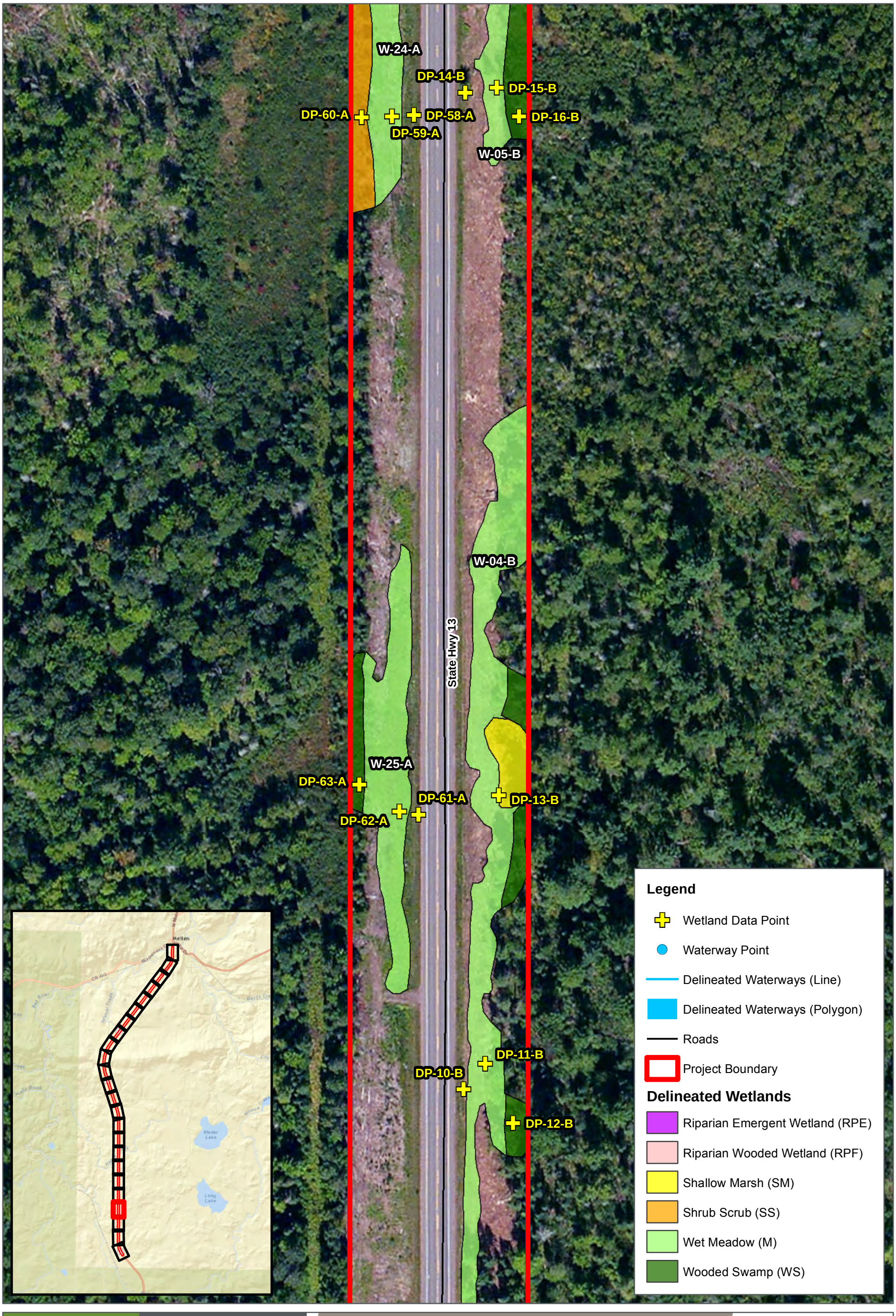
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

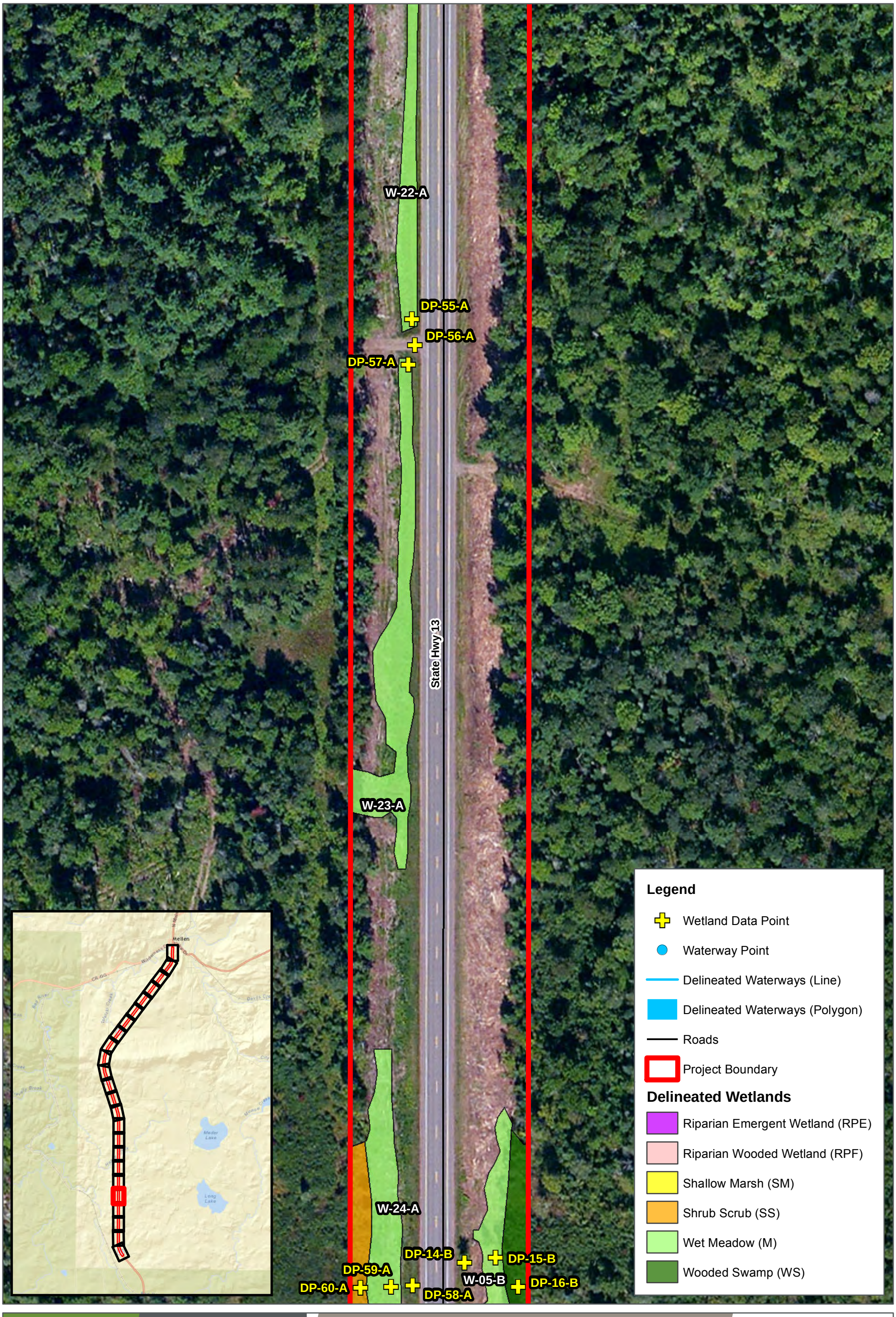
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

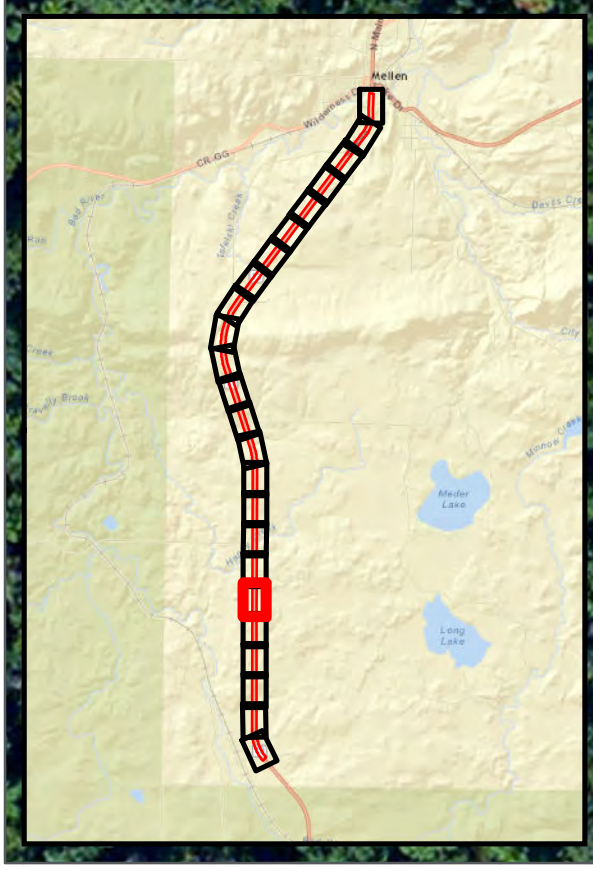
Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

State Hwy 13

W-06-B
DP-17-B
DP-18-B
W-21-A
DP-53-A
DP-54-A
W-22-A



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

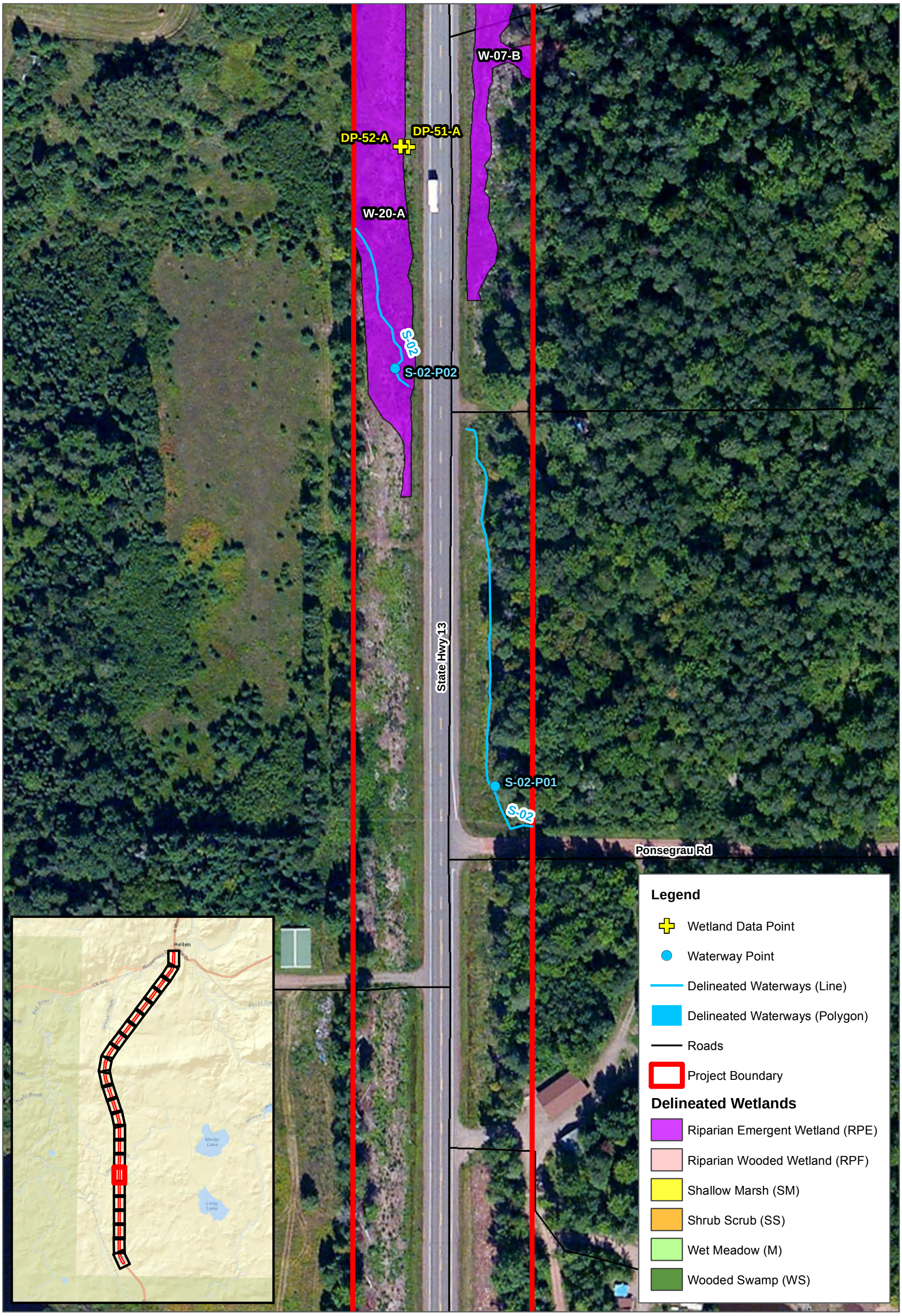
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

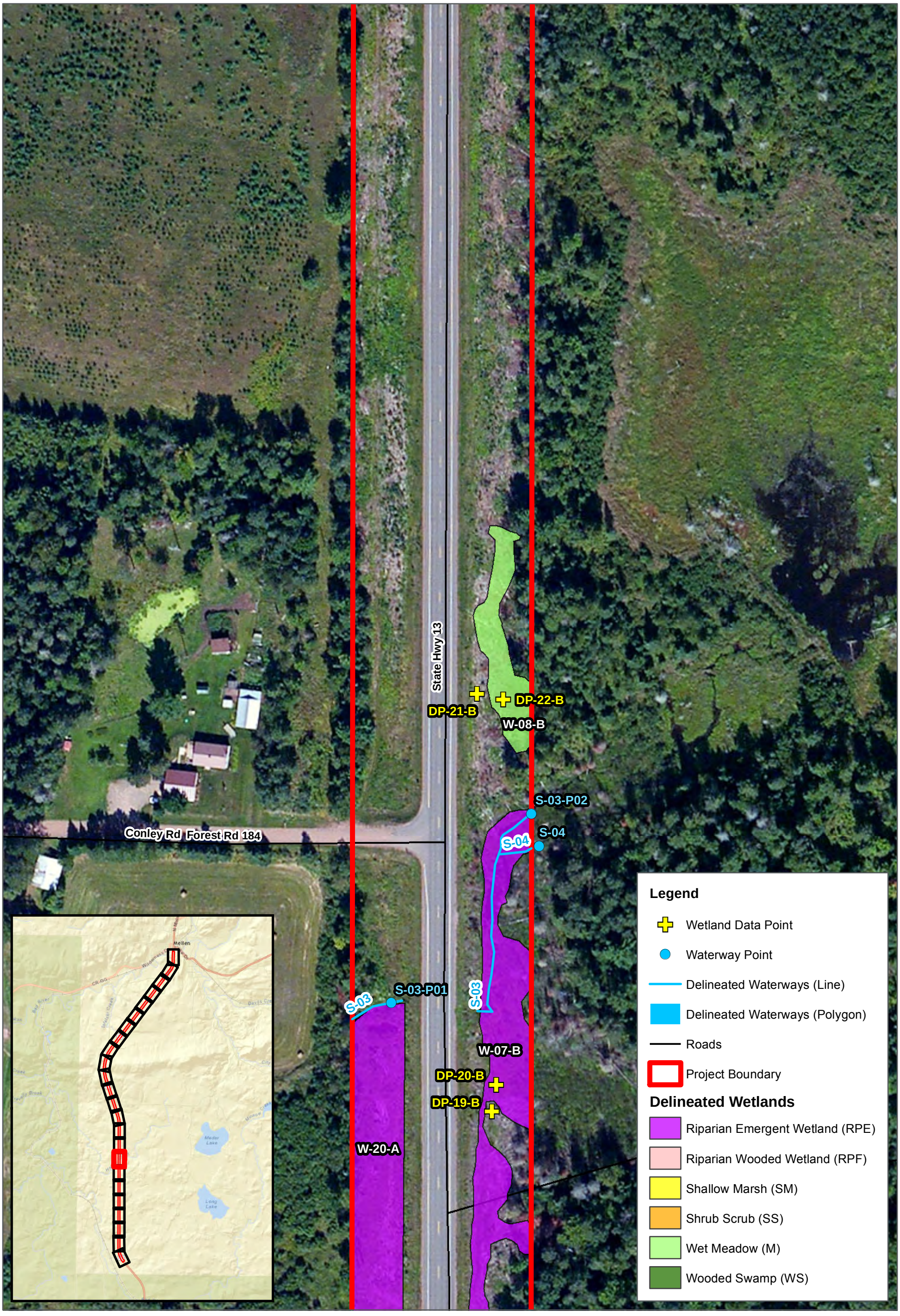
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

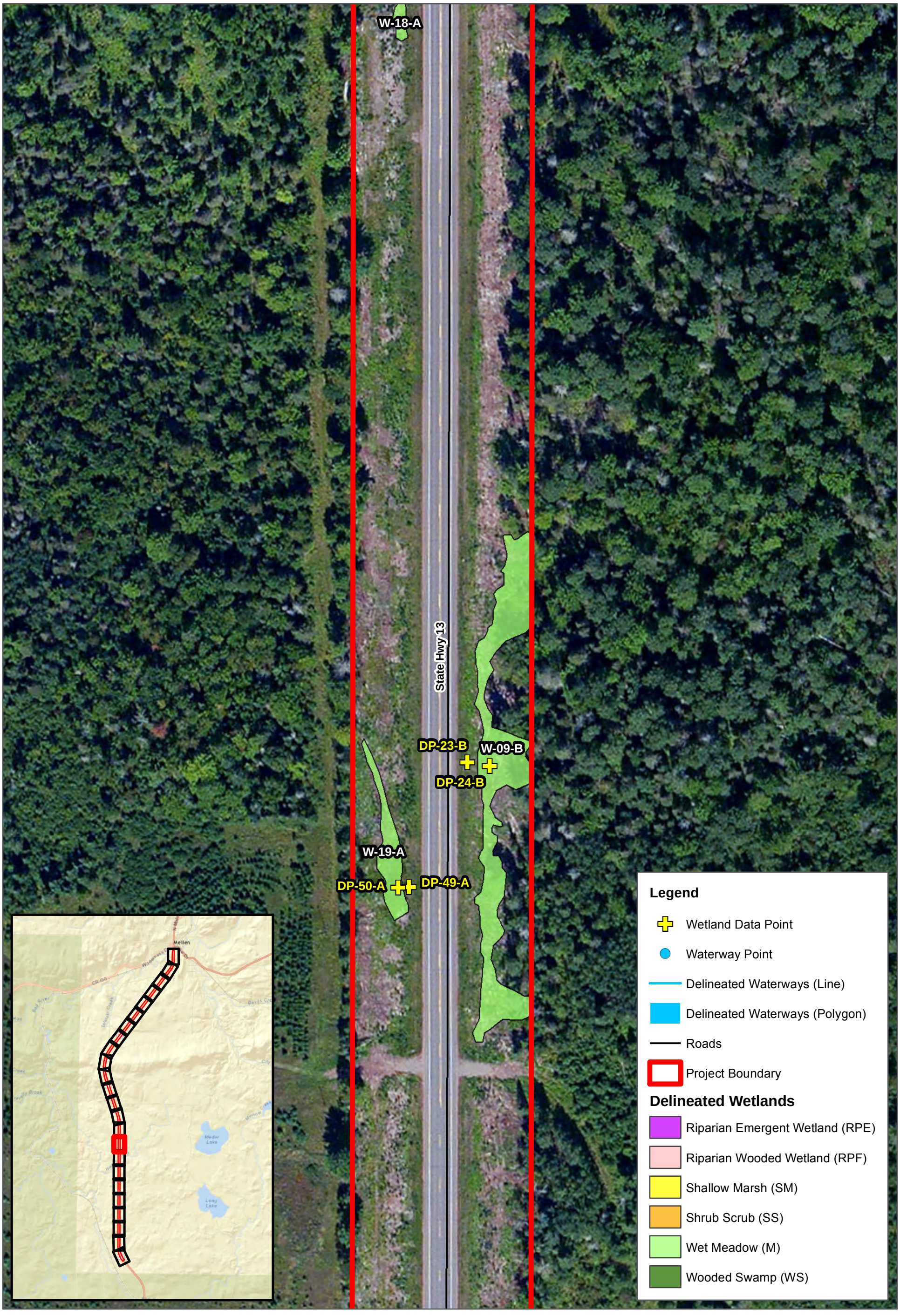
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-12-B
W-16-A
DP-29-B
DP-30-B
DP-45-A
DP-44-A
DP-31-B
W-17-A
State Hwy 13
DP-27-B
DP-28-B
W-18-A
W-11-B
DP-46-A
DP-48-A
DP-47-A
DP-26-B
DP-25-B
W-10-B
Mellen
CR GG
Meder Lake
Long Lake

Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

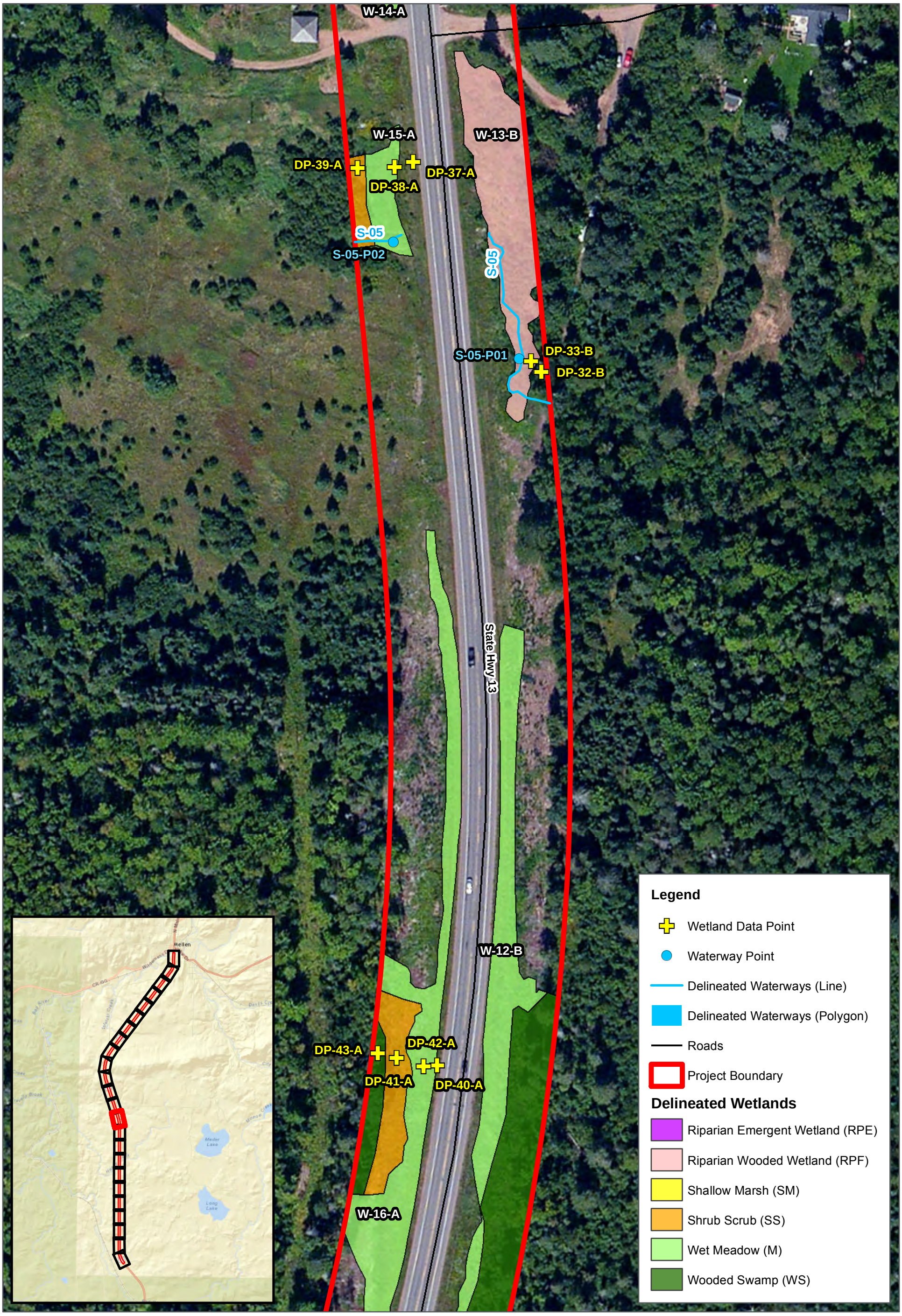
Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen



N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

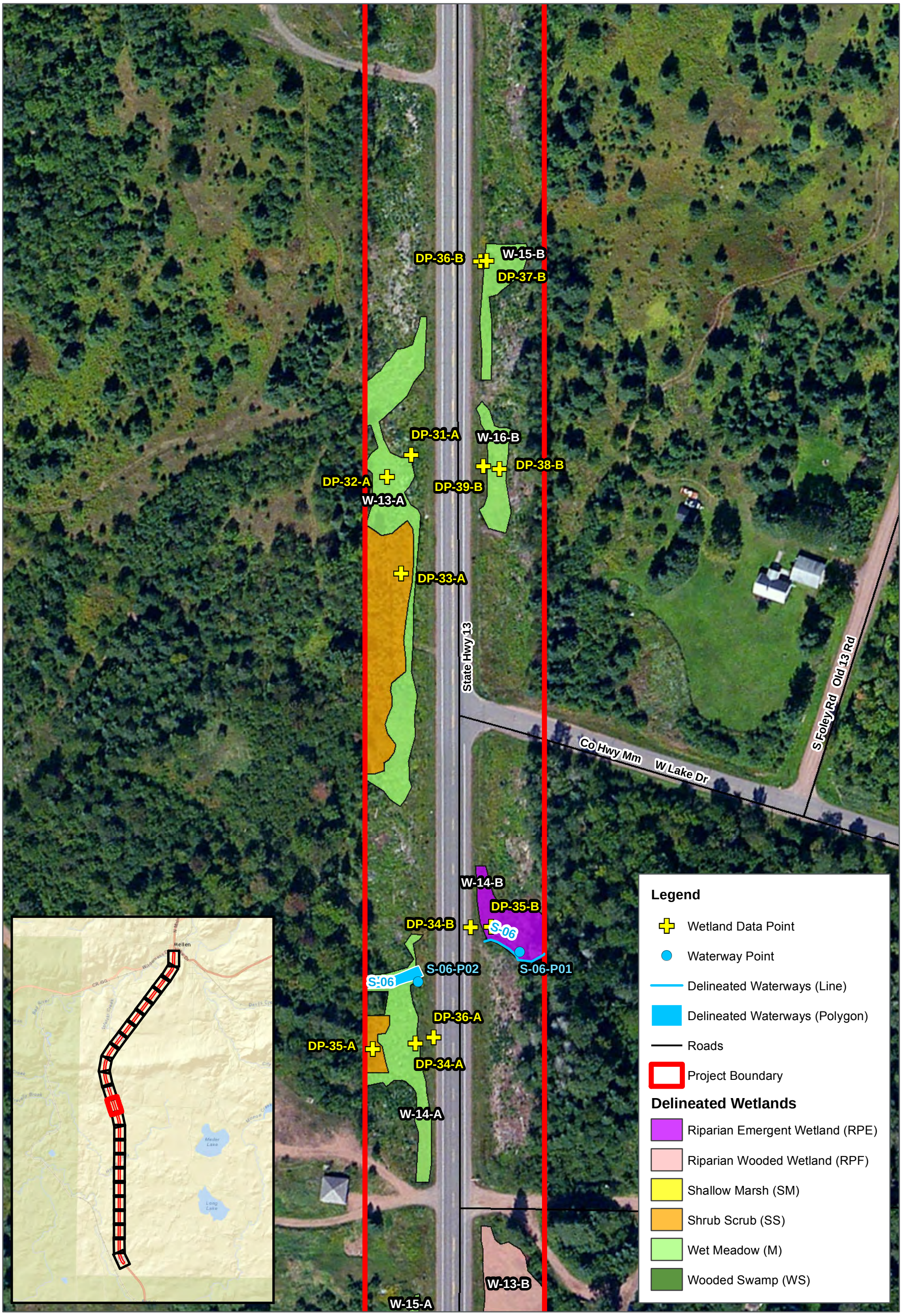
0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

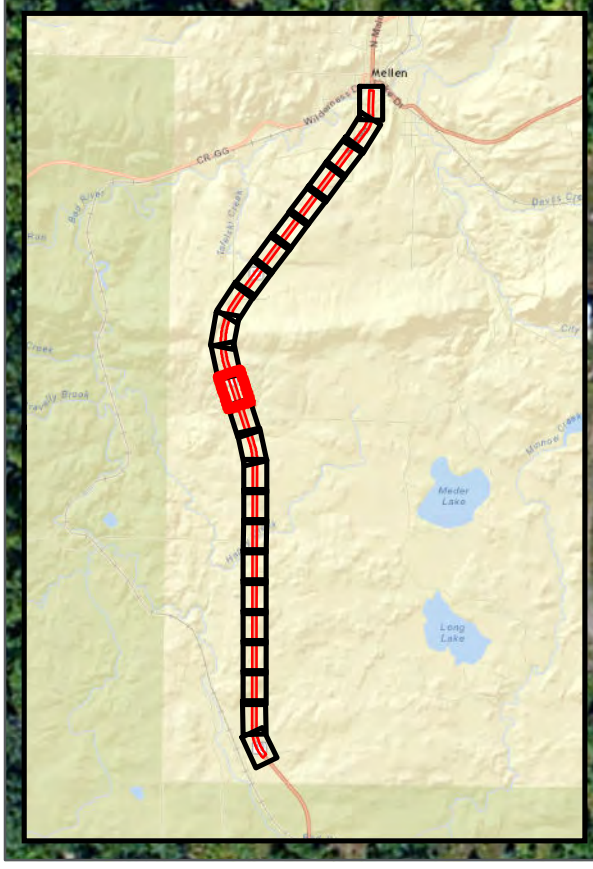
0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-11-A
W-18-B
W-17-B
DP-40-B
DP-41-B
DP-42-B
DP-30-A
State Hwy 13
W-12-A
DP-29-A



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

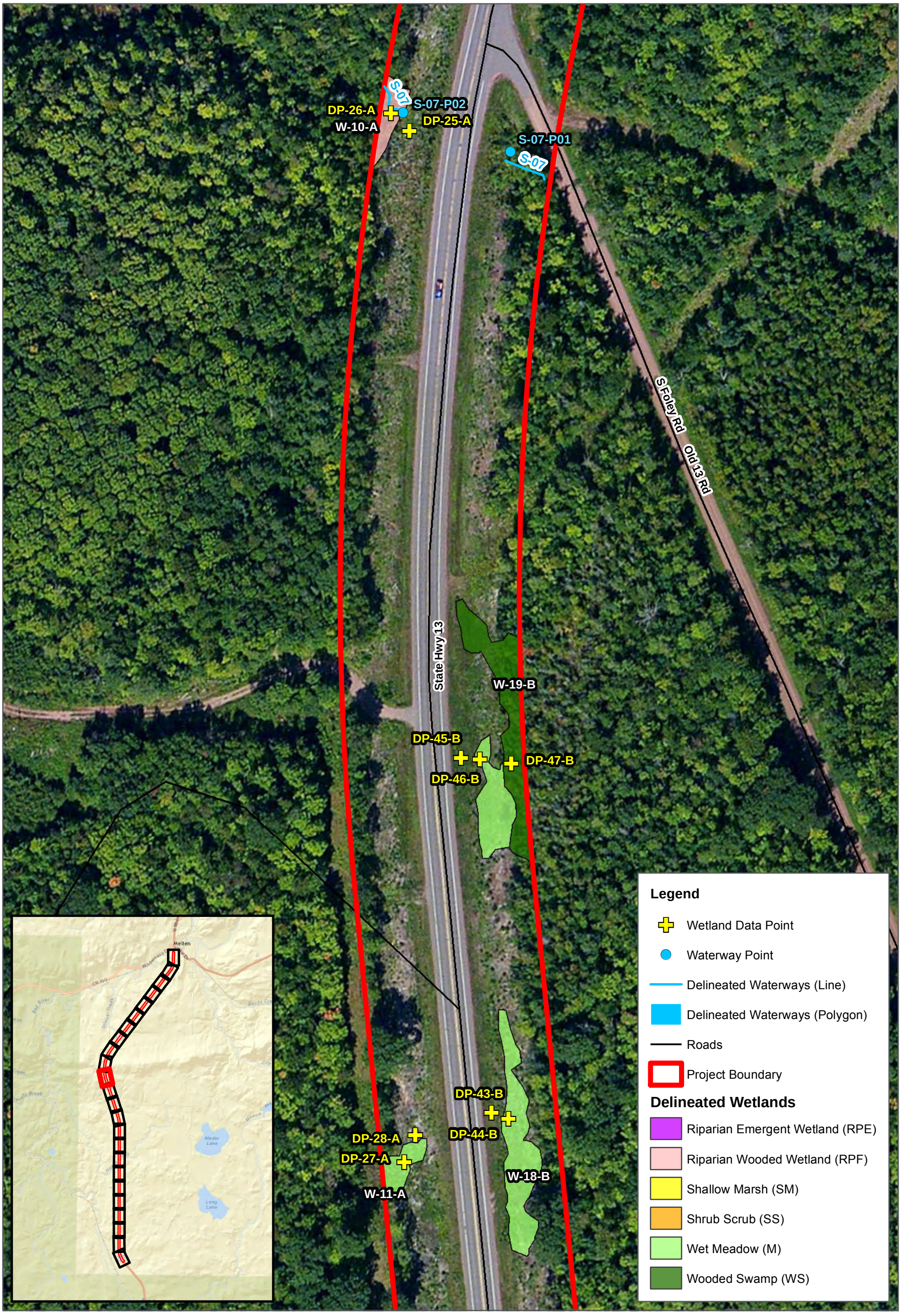
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

S-08

State Hwy 13

DP-24-A

W-10-A

DP-26-A

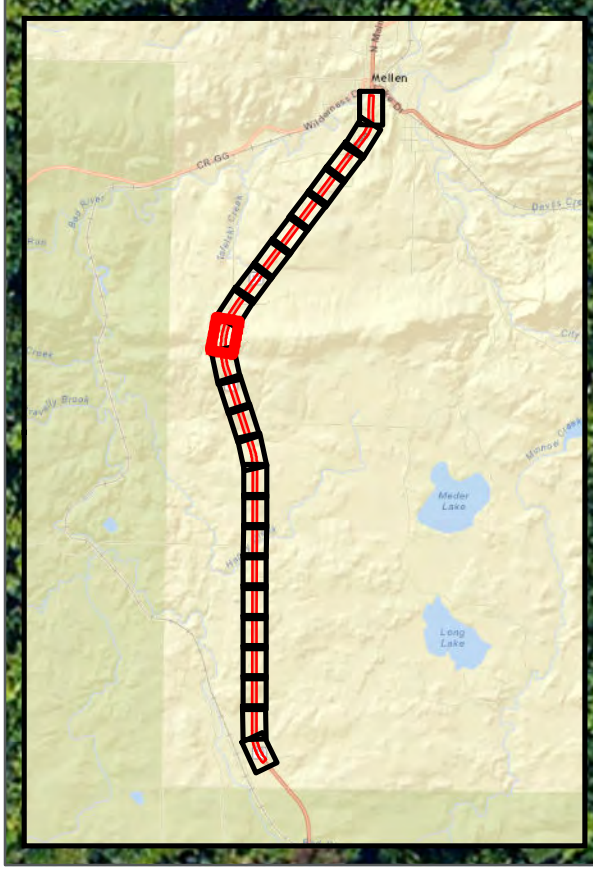
S-07-P02

S-07-P01

S-07

S Foley Rd

Old 13 Rd



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N E S W

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

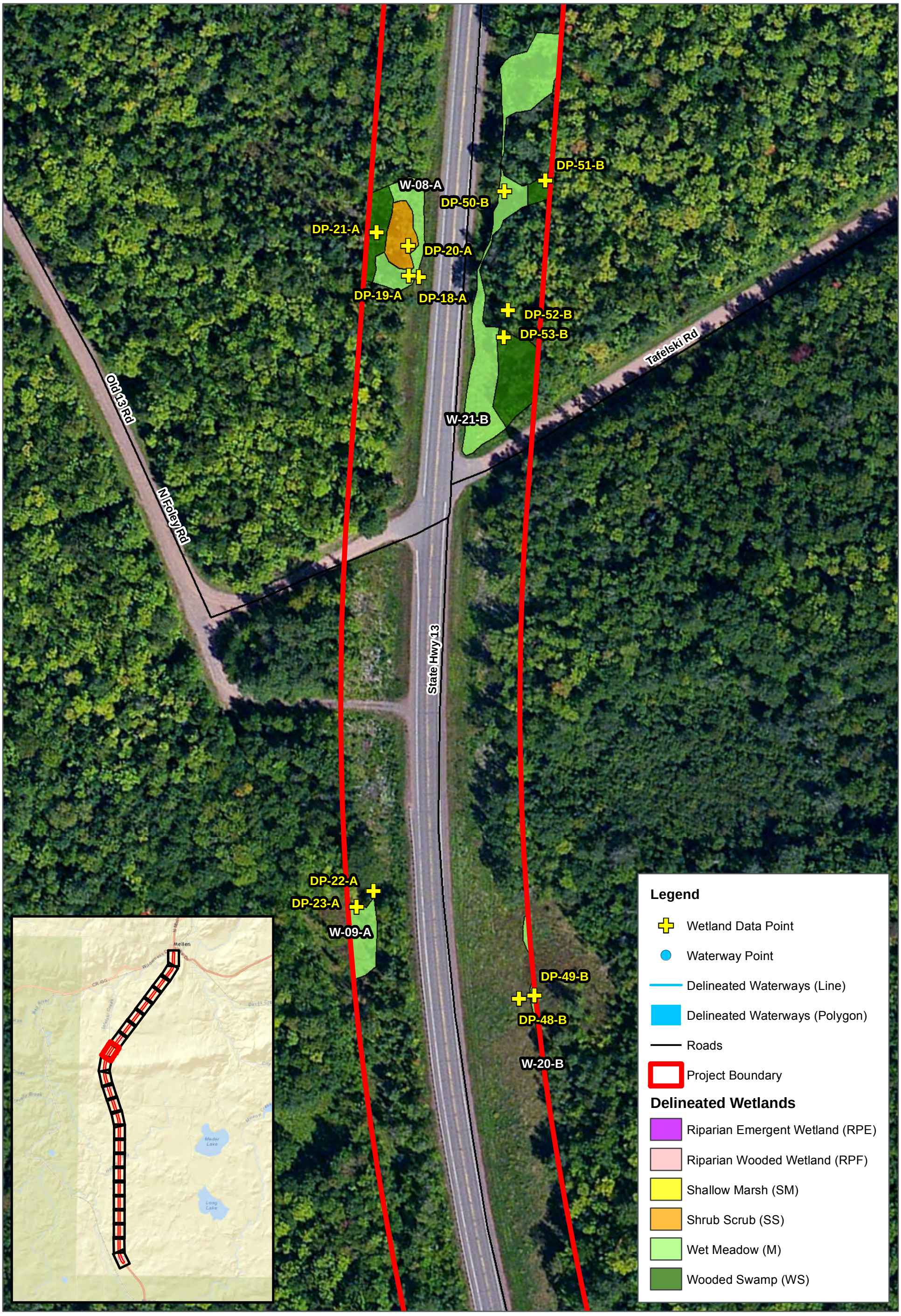
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N E W S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

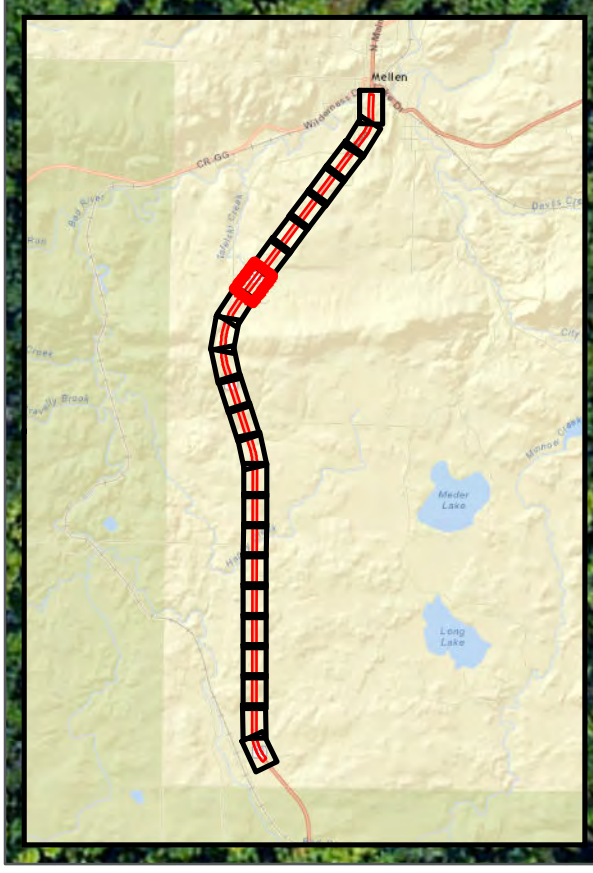
0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

DP-09-A
DP-10-A
W-04-A
S-09-P02
S-09
S-09-P01
S-09
DP-58-B
S-10
S-10
DP-56-B
DP-57-B
W-05-A
DP-12-A
DP-11-A
W-23-B
State Hwy 13
DP-14-A
DP-13-A
W-06-A
W-07-A
DP-16-A
DP-17-A
W-22-B
DP-15-A
DP-54-B
DP-55-B
W-21-B



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N E W S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

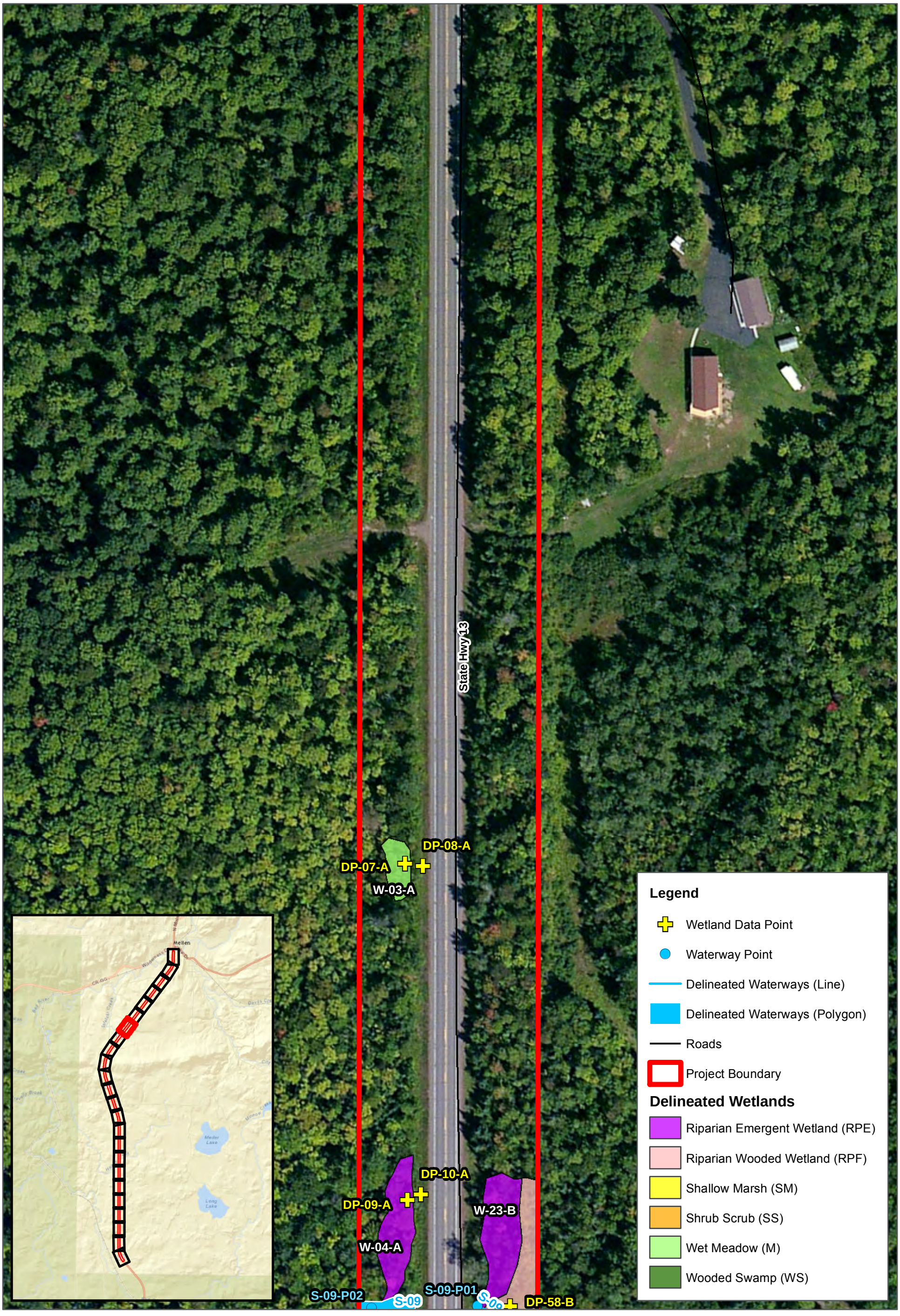
Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen



N E S W

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

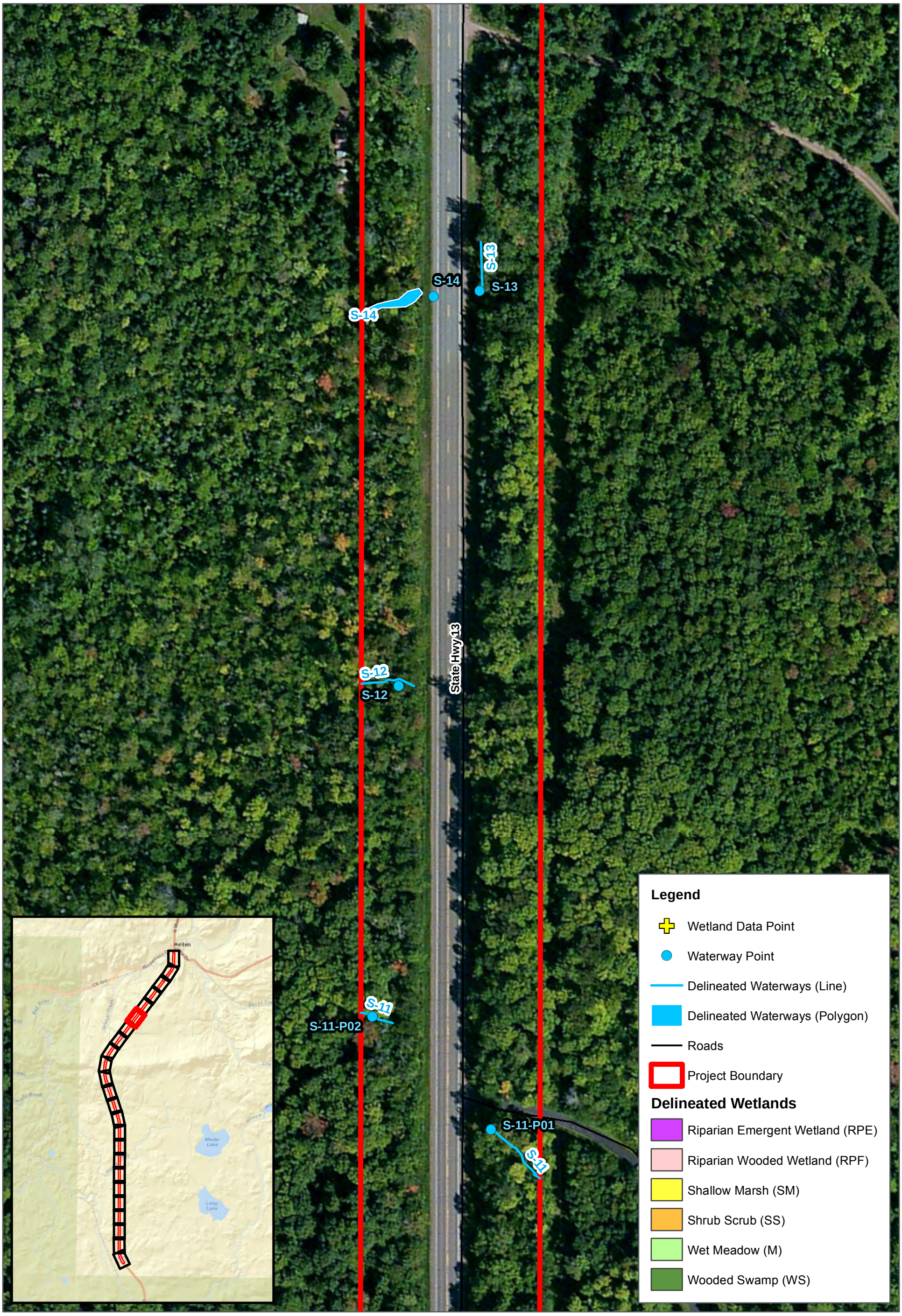
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N E S W

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

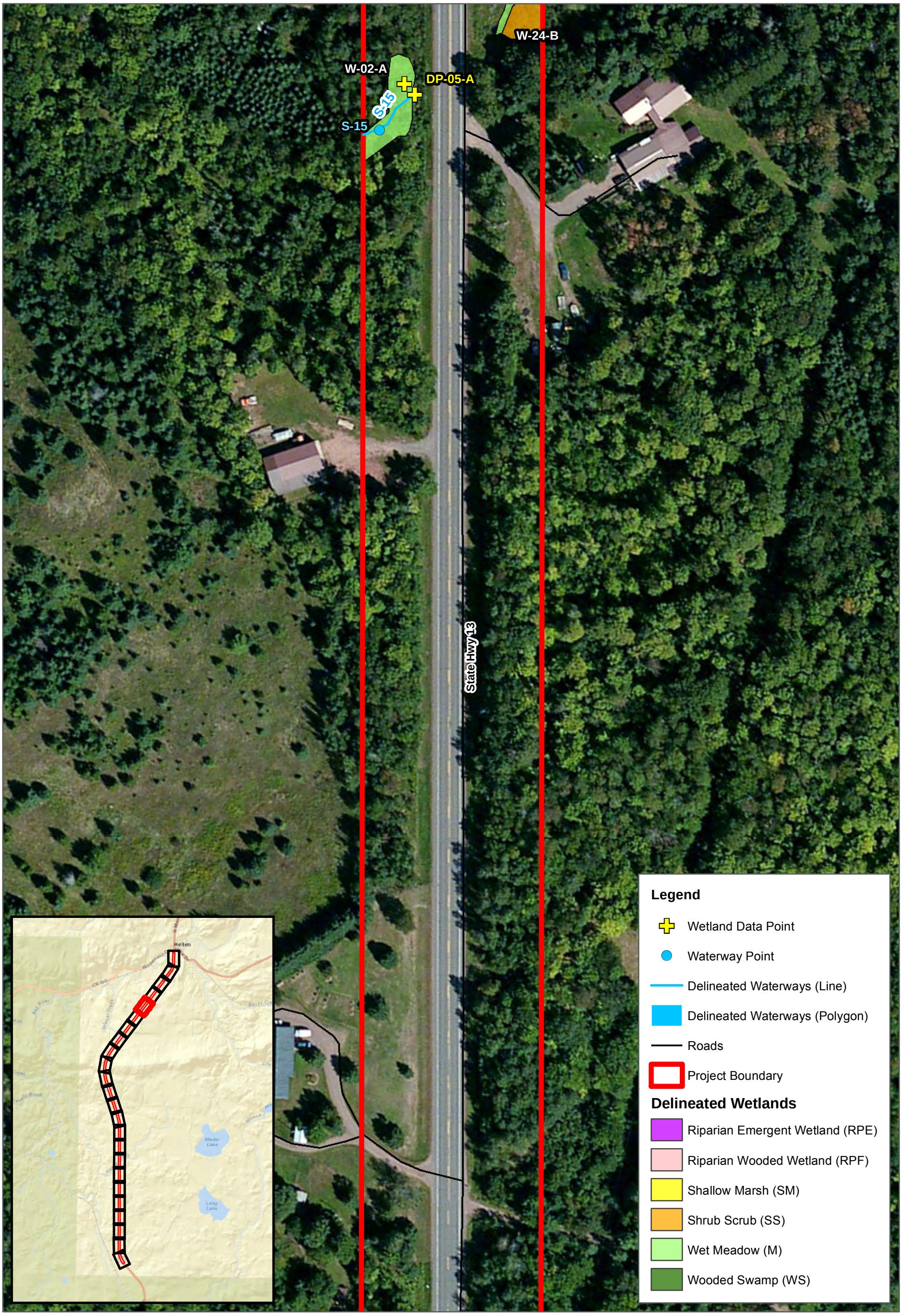
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

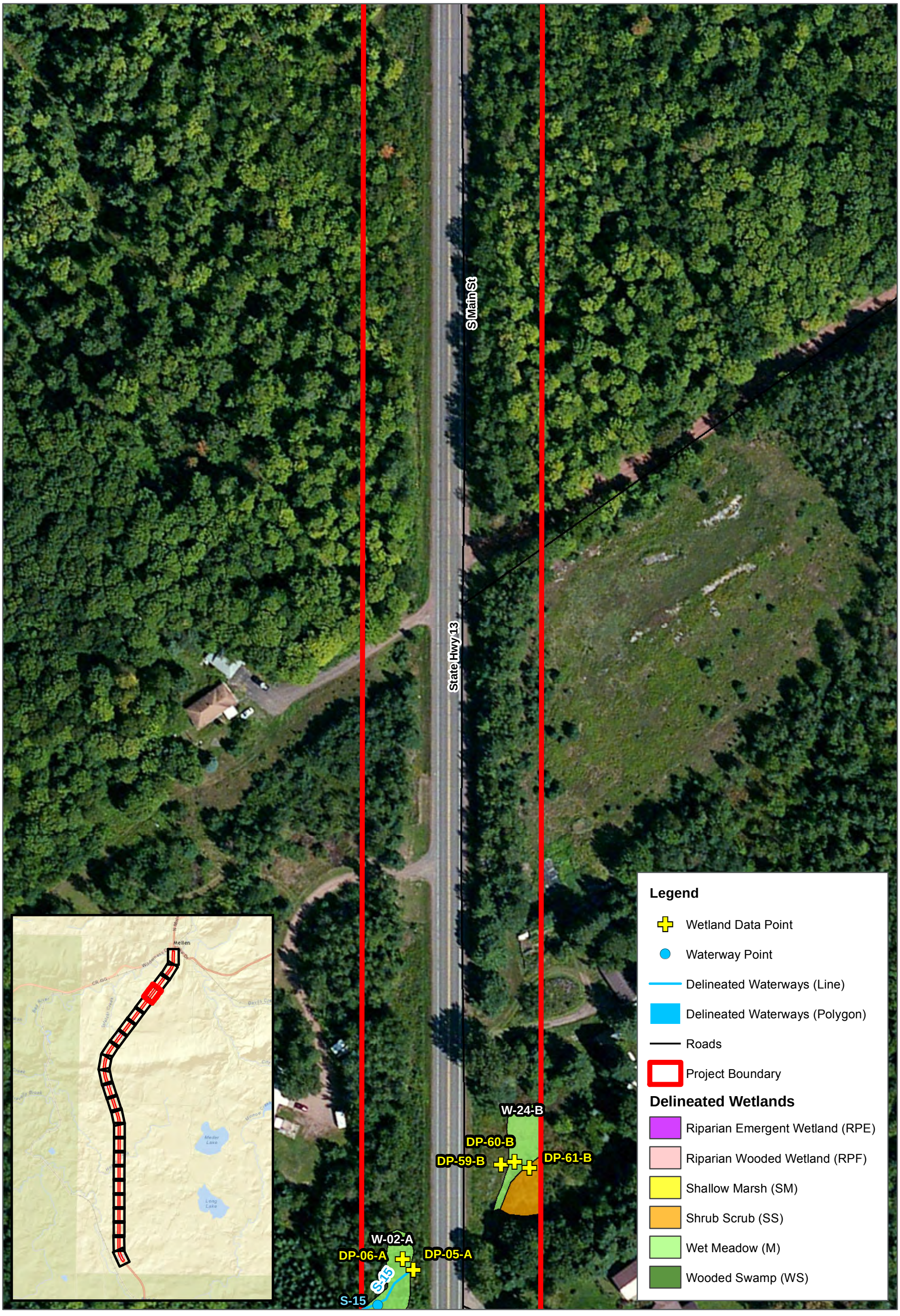
0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N E W S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

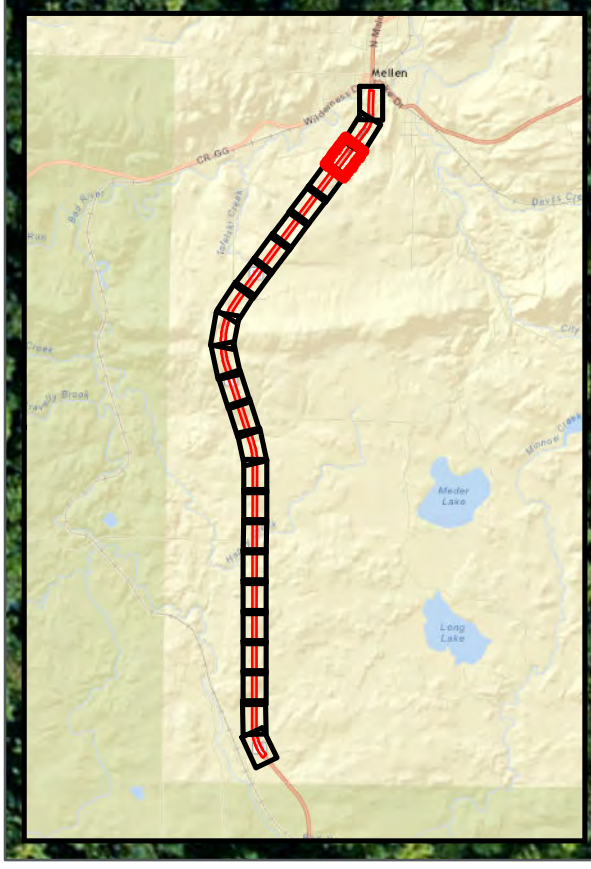
0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-25-B
DP-62-B
DP-63-B
Thomas St
N Foley Rd
Old 13 Rd
Berkshire Dr
S Main St State Hwy 13



Legend

- Wetland Data Point
- Waterway Point
- Delineated Waterways (Line)
- Delineated Waterways (Polygon)
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N E S W

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

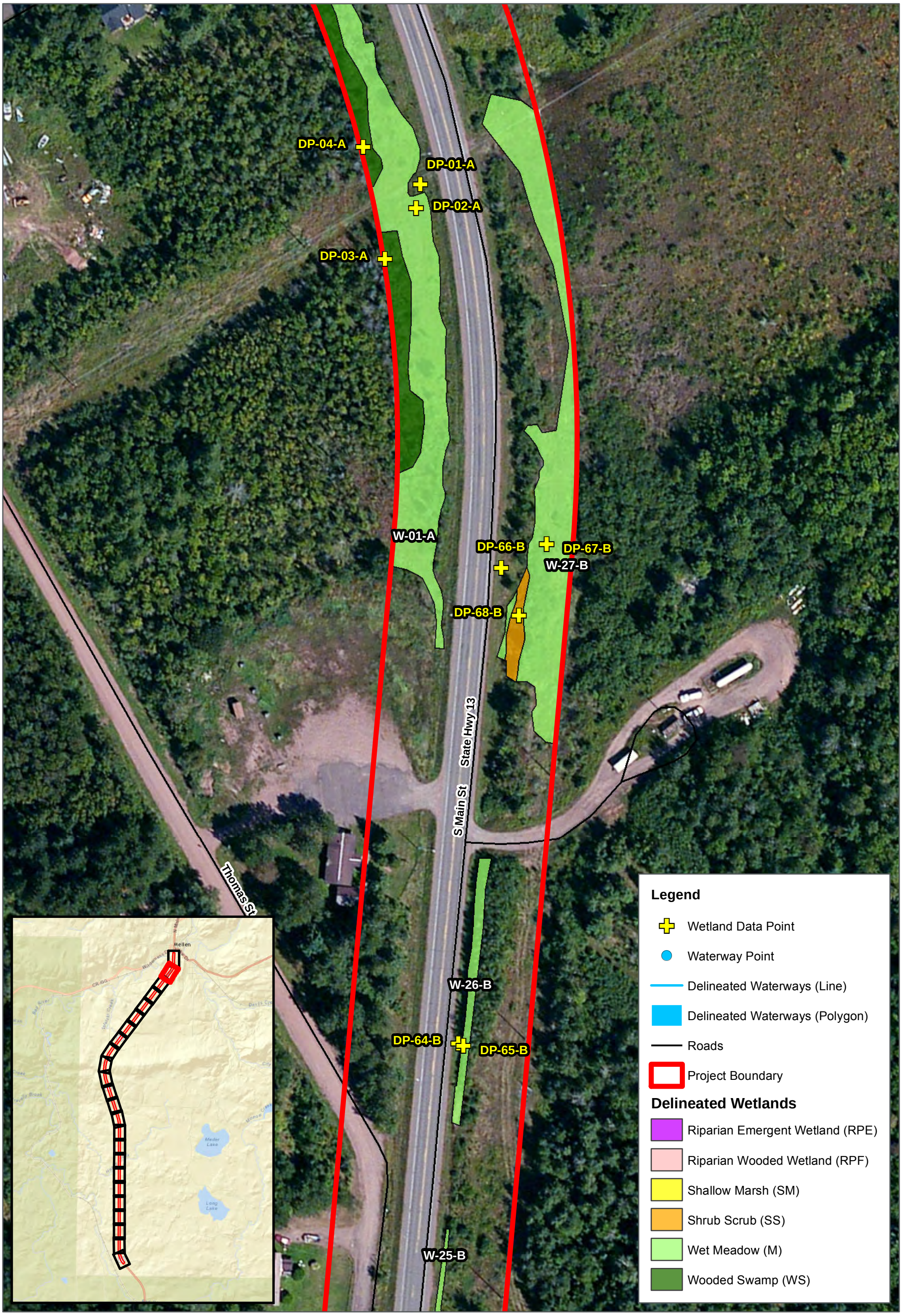
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

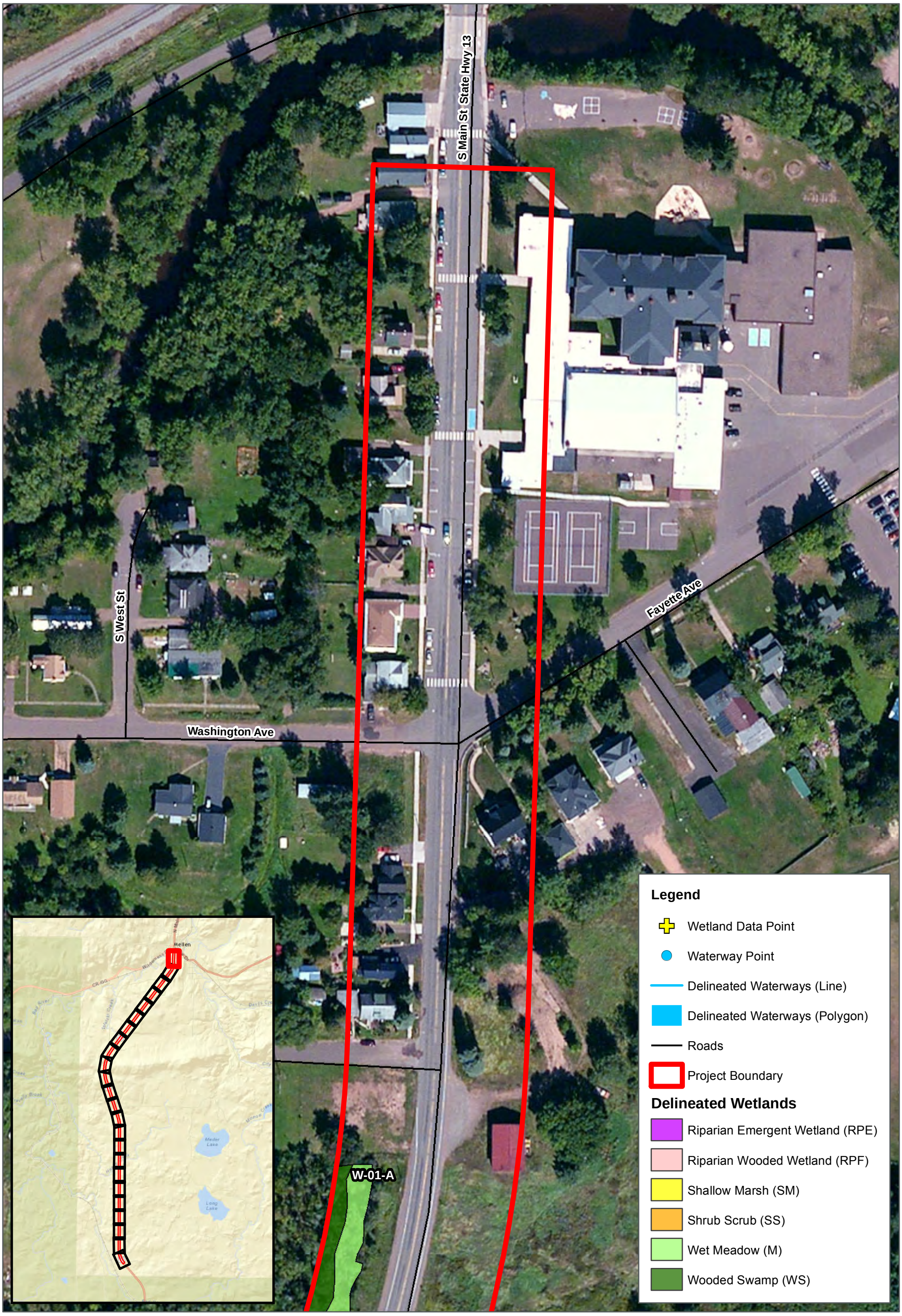
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Delineated Wetlands and Waterways

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

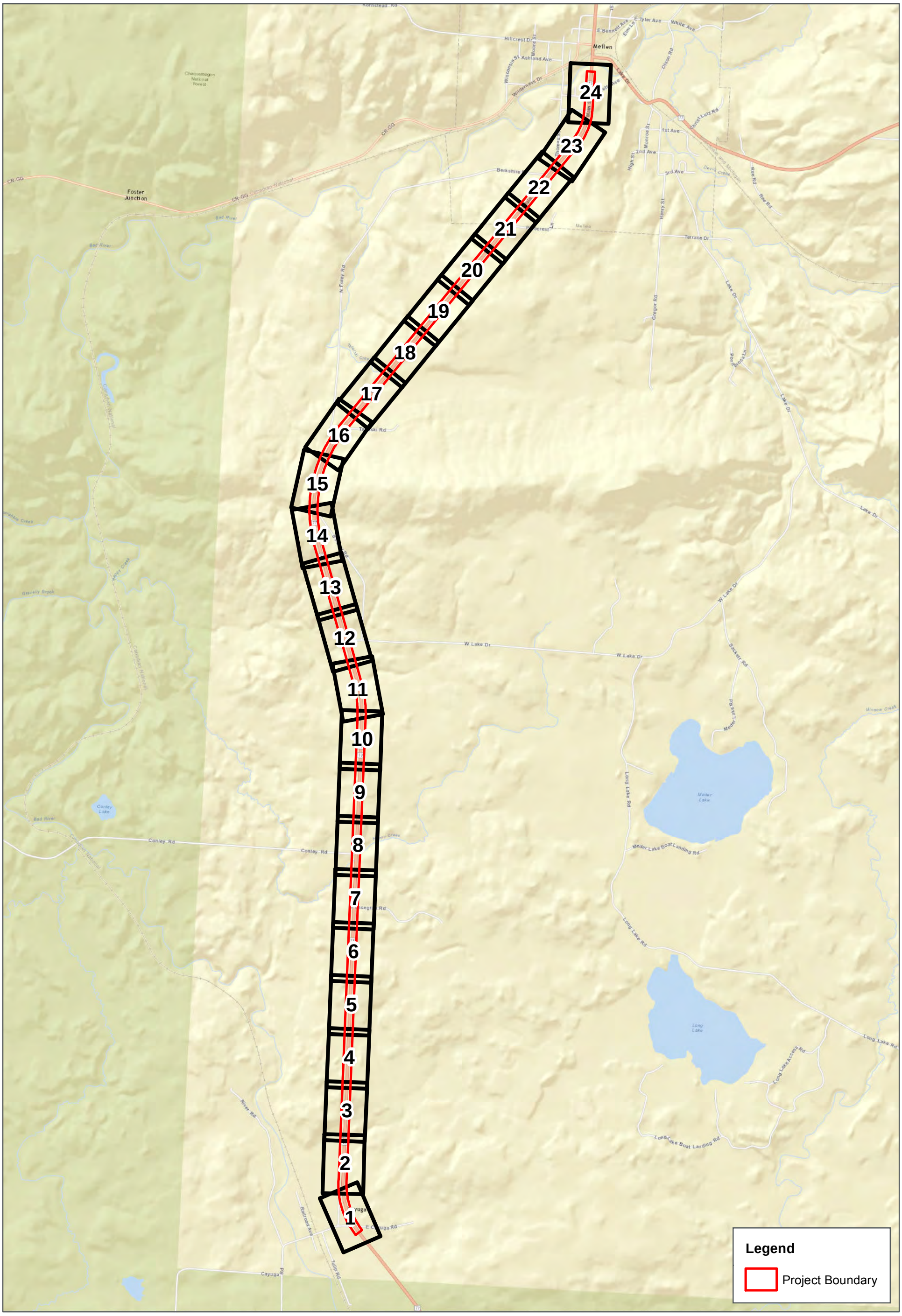
Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Delineated Wetlands and Waterways.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

STH 13 Cayuga Road to Jefferson Ave

FIGURE 6

Photo Points



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

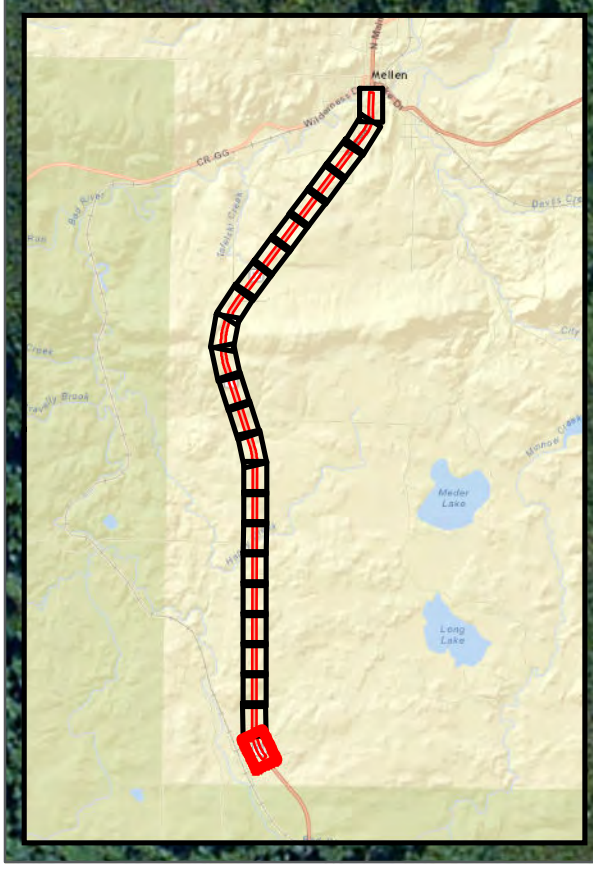
0 1,250 2,500 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-02
W-27-A
W-28-A
Cayuga Rd
PP-82
W-01-B
PP-01
W-29-A
PP-83
W-08-B
Thim Rd
W-06-B
State Hwy 13
W-07-B



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

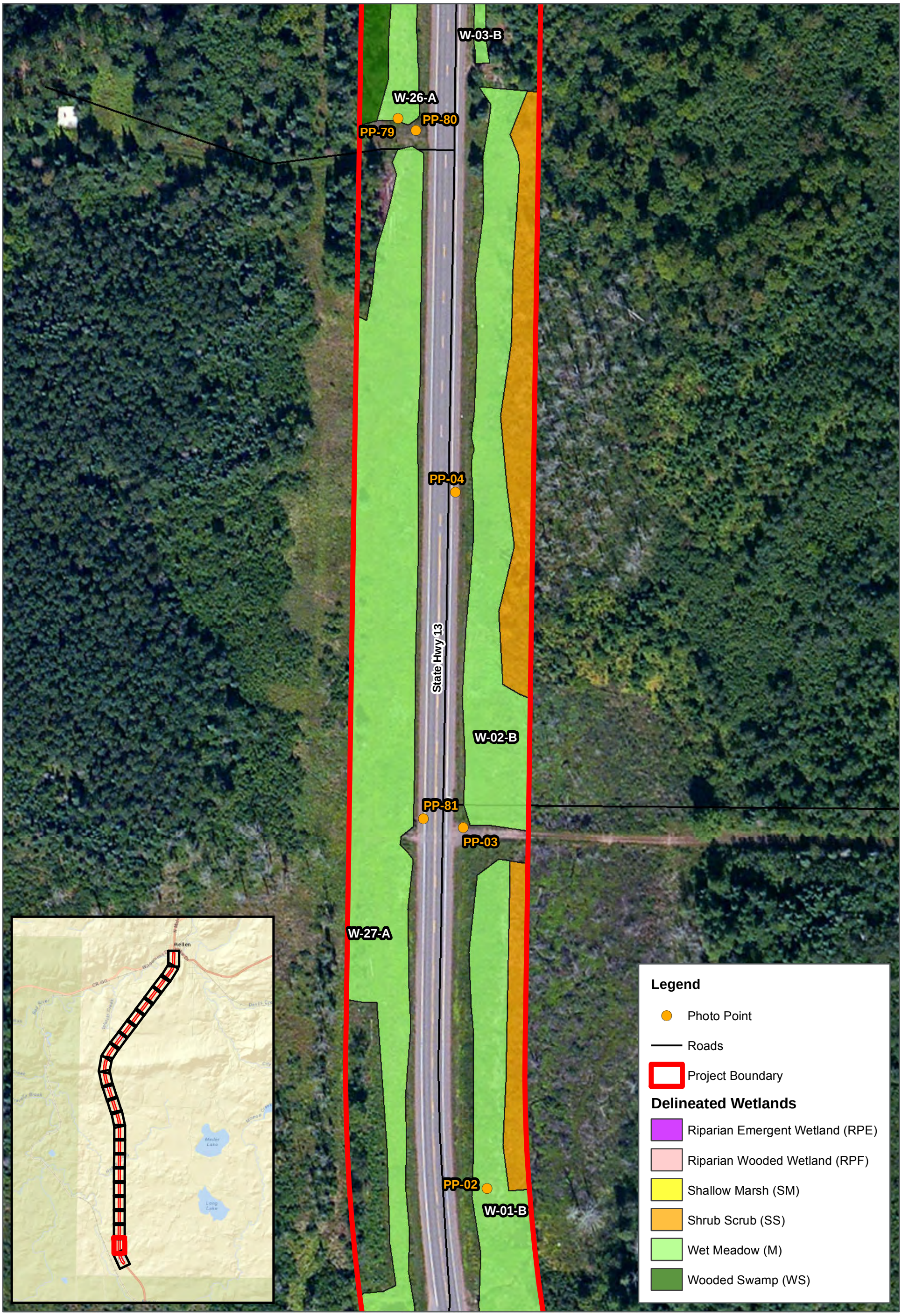
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-04-B

State Hwy 13

PP-06

PP-05

W-26-A

W-03-B

W-02-B

PP-80

PP-79

Mellen

CR GG

Bad River

Davis Creek

Trywilly Brook

Meder Lake

Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N

W E

S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-75
W-24-A
PP-10
W-05-B
PP-76
W-04-B
State Hwy 13
W-25-A
PP-09
PP-77
PP-78
PP-07
PP-08
Mellen
CR GG
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen

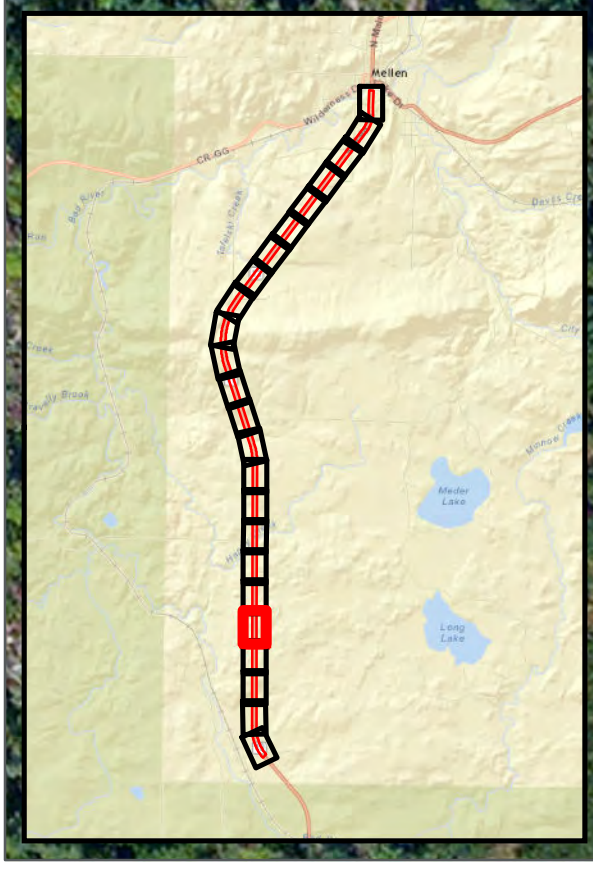
W-22-A

PP-73

PP-74

State Hwy 13

W-23-A



PP-11

PP-75

W-05-B

W-24-A

PP-10

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N

W E

S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

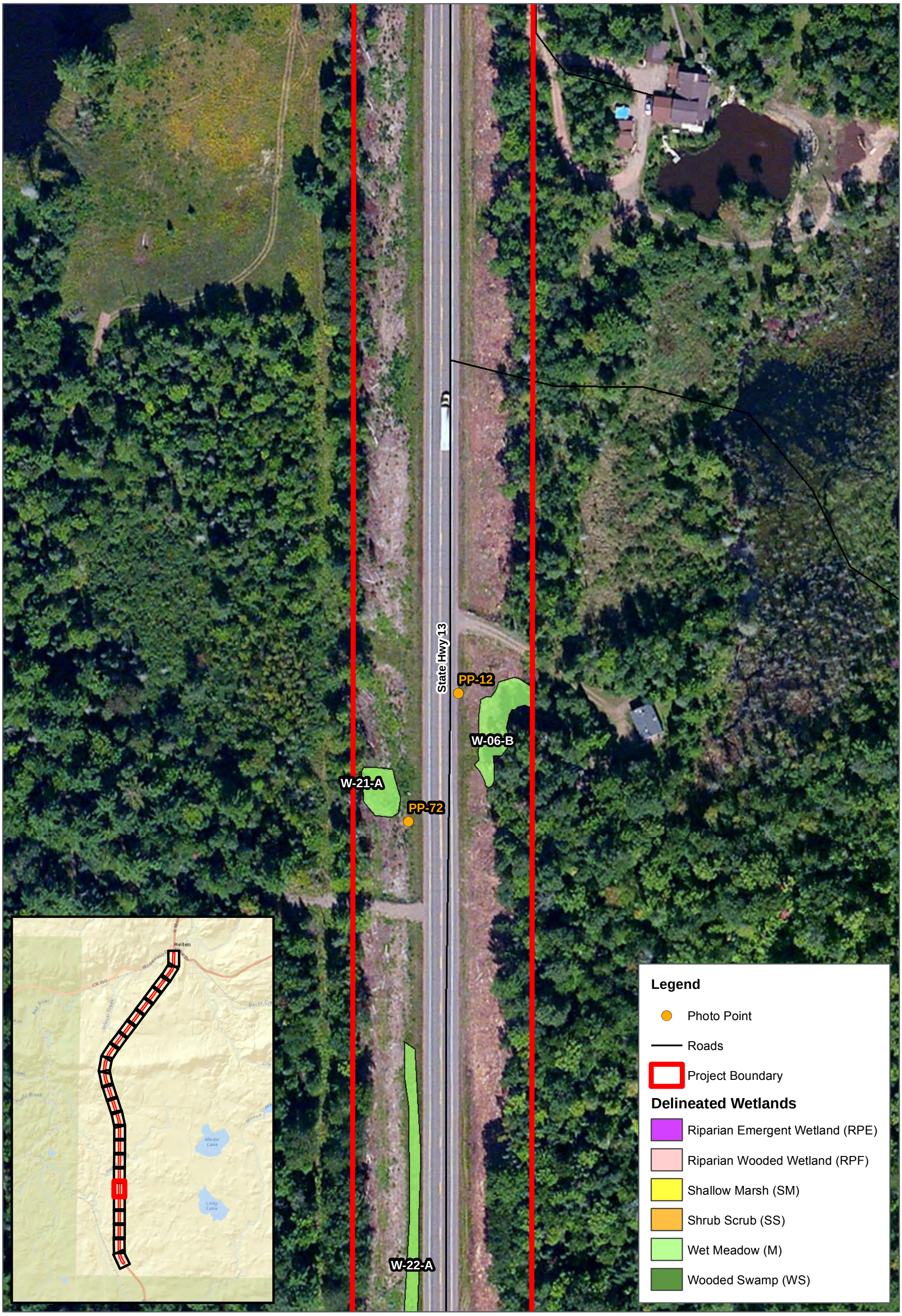
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-13
W-07-B
W-20-A
PP-71
State Hwy 13
Ponsegrau Rd
Mellen
CR GG
Bad River
Whitetail Creek
Davis Creek
Trowbridge Creek
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

State Hwy 13

Conley Rd Forest Rd 184

PP-14

PP-13

W-08-B

W-07-B

W-20-A

Mellen

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-18-A

State Hwy 13

W-09-B

W-19-A

PP-70

PP-15

Mellen

CR GG

Meder Lake

Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N

W E

S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-12-B
W-16-A
PP-19
PP-67
PP-18
W-17-A
State Hwy 13
PP-68
W-18-A
PP-17
PP-69
W-10-B
PP-16
Mellen
CR GG
Bad River
Davis Creek
Morgan Creek
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

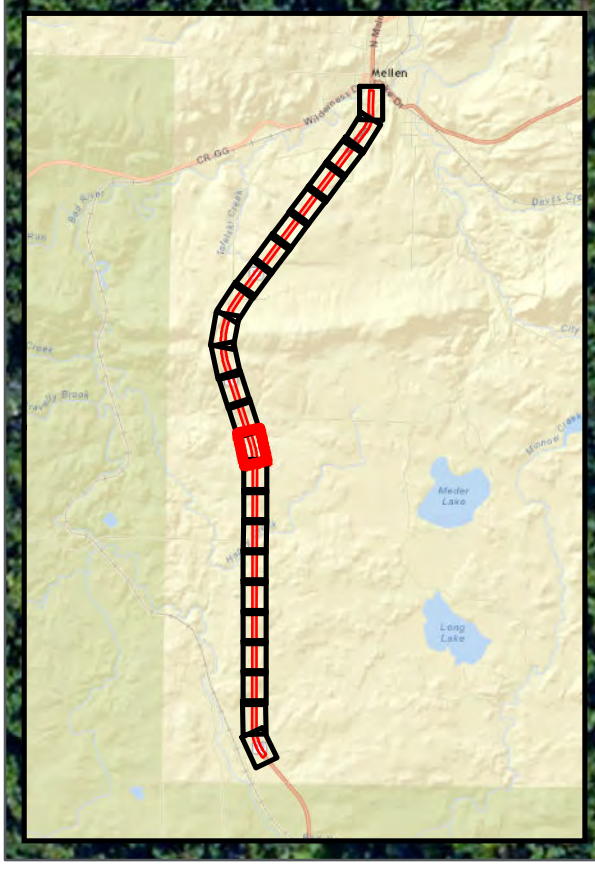
0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-14-A
W-13-B
PP-62
PP-63
W-15-A
PP-20
State Hwy 13
W-12-B
PP-64
PP-66
PP-65
W-16-A



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-15-B
PP-23
PP-22
PP-58
W-16-B
W-13-A
PP-59
State Hwy 13
S Foley Rd
Old 13 Rd
Co Hwy Mm
W Lake Dr
W-14-B
PP-21
W-14-A
PP-61
PP-60
W-13-B
W-15-A
Mellen
CR GG
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

W-11-A
W-18-B
W-17-B
PP-25
PP-24
PP-57
W-12-A
State Hwy 13
Mellen
CR GG
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-55
W-10-A
Old 13 Rd
S Foley Rd
State Hwy 13
W-19-B
PP-28
PP-27
PP-26
PP-56
W-18-B
W-11-A
Mellen
CR GG
Bad River
Morgan Creek
Meder Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

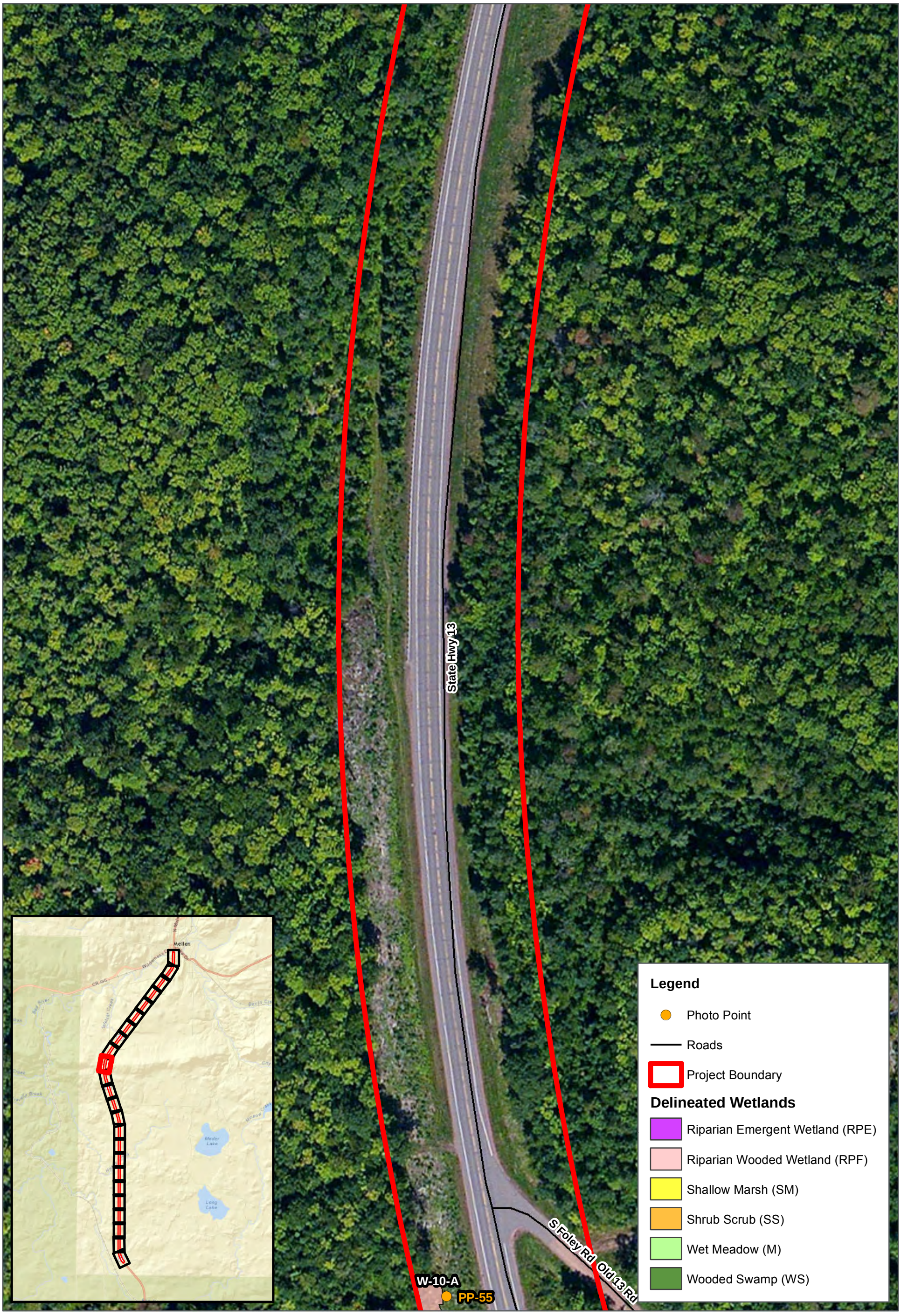
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-51
PP-31
PP-30
PP-52
W-08-A
PP-53
Old 13 Rd
N Foley Rd
Tafelski Rd
W-21-B
State Hwy 13
PP-54
W-09-A
PP-29
W-20-B
Mellen
CR GG
Medar Lake
Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-46
W-04-A
PP-34
PP-33
W-23-B
W-05-A
PP-47
State Hwy 13
PP-48
W-06-A
W-22-B
PP-49
PP-50
W-07-A
PP-32
W-21-B
Mellen
CR GG

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N E S W

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC
GIS Analyst: Alex Cohen

State Hwy 13

PP-45

W-03-A

PP-46

W-23-B

W-04-A

PP-34

Mellen

CR GG

Meder Lake

Long Lake

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N E S W

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M17

Photo Points

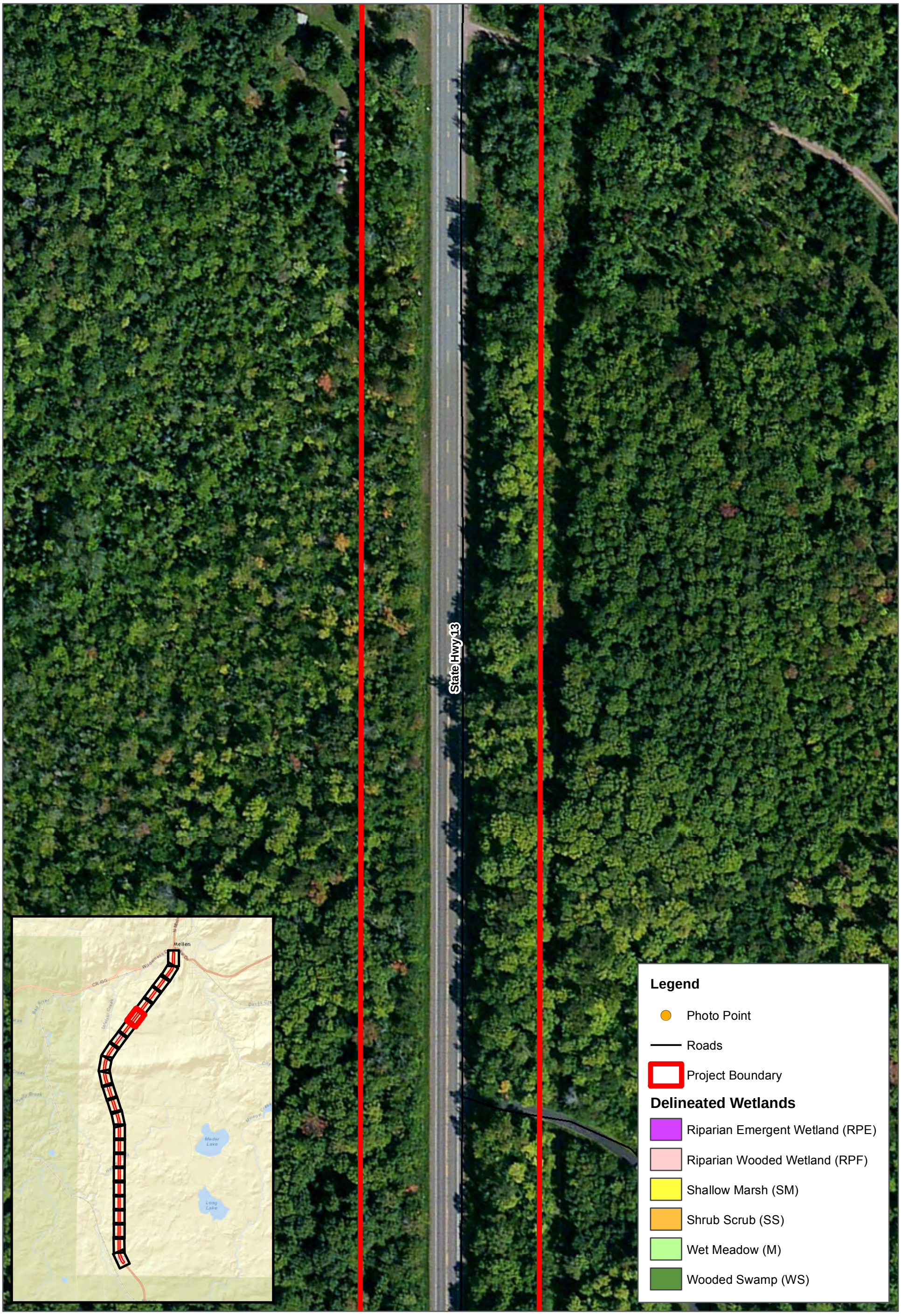
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N E S W

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

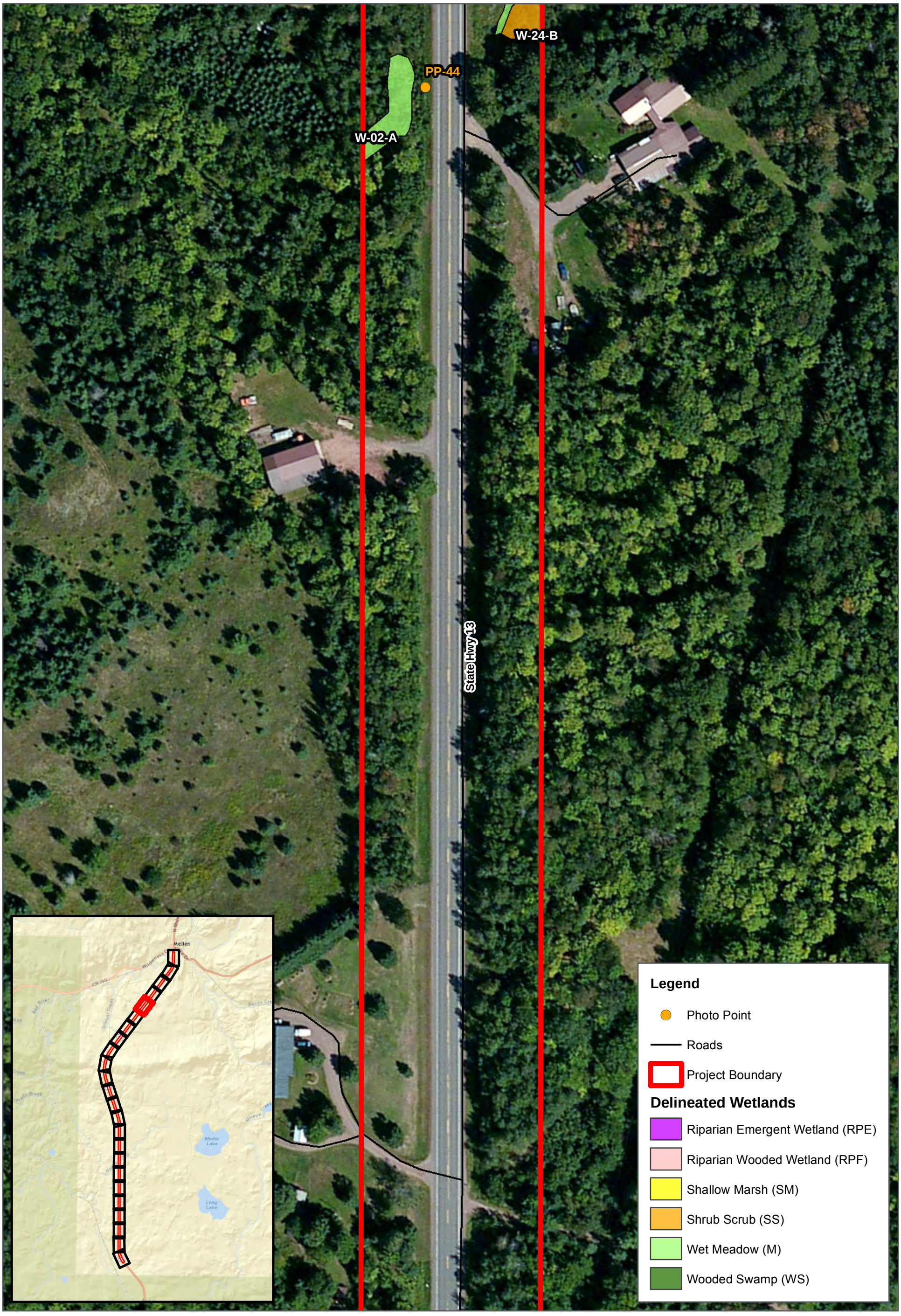
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N E S W

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

S Main St

State Hwy 13

Mellen

CR GG

Meder Lake

Long Lake

PP-36

W-24-B

PP-35

PP-44

W-02-A

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N E W S

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M17

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

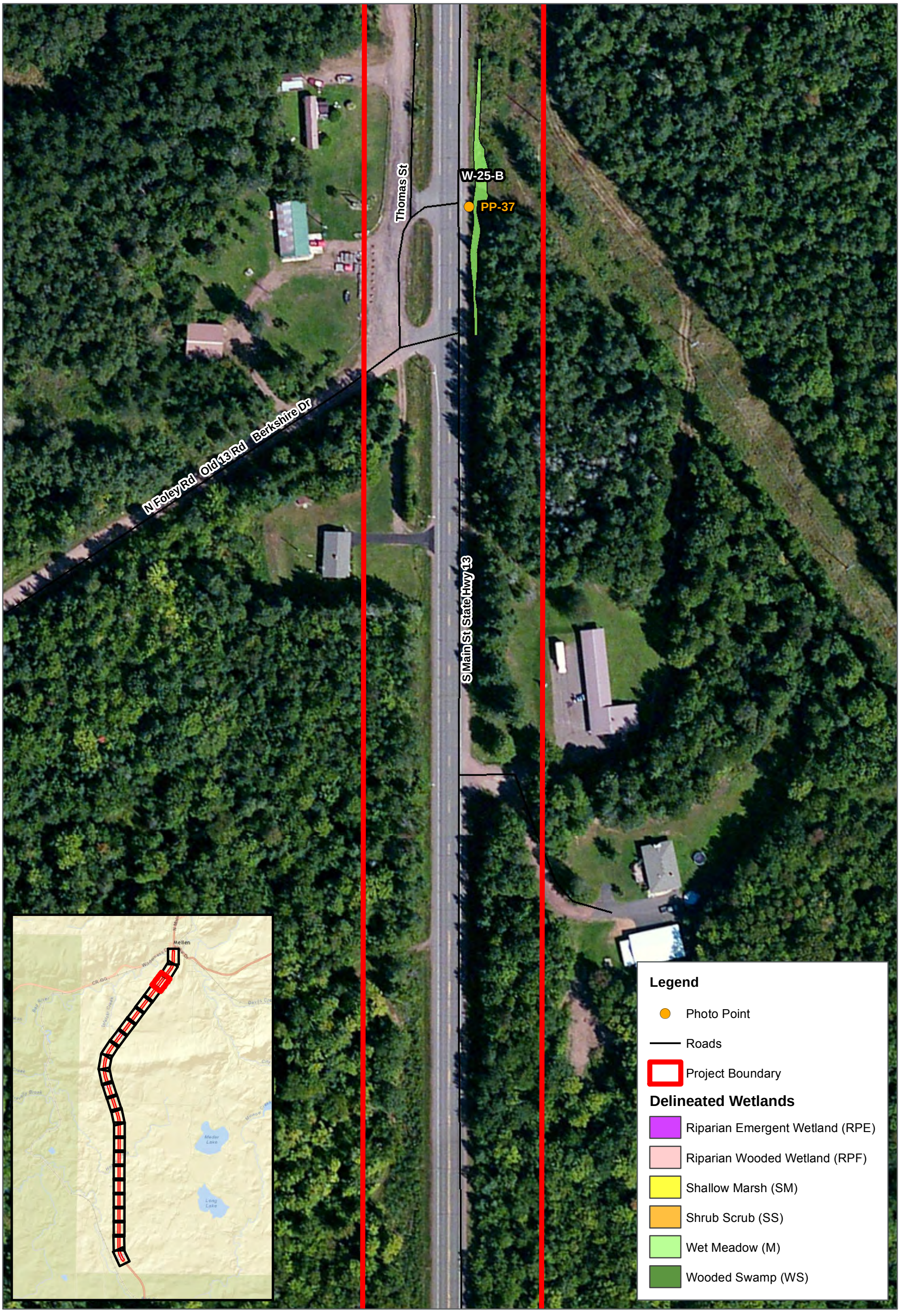
0 50 100 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N E S W

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

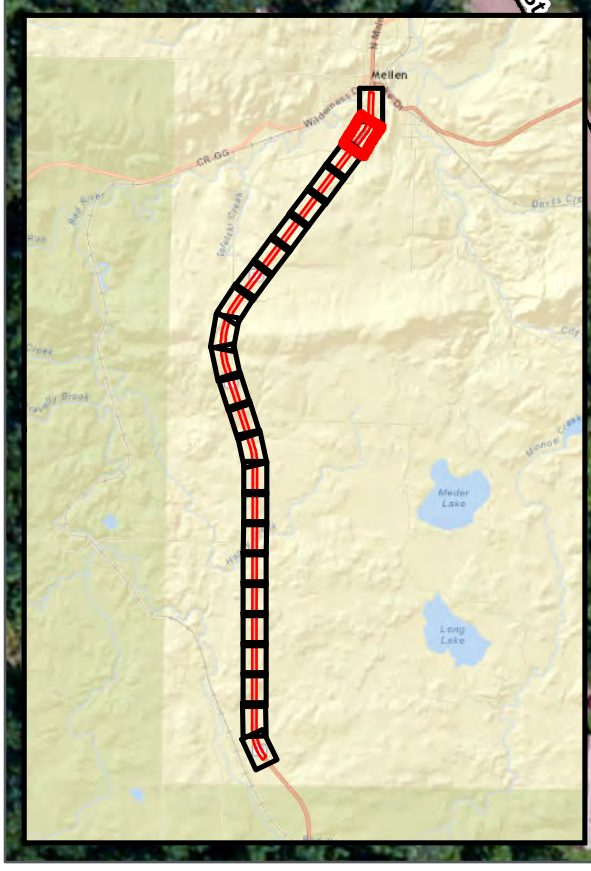
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PP-41
PP-42
PP-43
W-01-A
PP-40
W-27-B
PP-39
S Main St
State Hwy 13
Thomas St
W-26-B
PP-38
W-25-B



Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N E S W

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

S Main St State Hwy 13

S West St

Washington Ave

Fayette Ave

W-01-A

Mellen

Legend

- Photo Point
- Roads
- Project Boundary

Delineated Wetlands

- Riparian Emergent Wetland (RPE)
- Riparian Wooded Wetland (RPF)
- Shallow Marsh (SM)
- Shrub Scrub (SS)
- Wet Meadow (M)
- Wooded Swamp (WS)

N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Photo Points

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Delineation\Photo Points.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

Memorandum

Cardno

6140 Cottonwood Drive
Suite A
Fitchburg, Wisconsin 53719
USA

Phone 608 661 2955
Fax 608 661 2961

www.cardno.com

Date: August 31, 2016

To: Amy Adrihan, Environmental Coordinator, Wisconsin Department of Transportation

From: Zachary Waechter, Senior Project Scientist, Cardno

RE: **STH 13: Morse Road-Cayuga Road, Ashland County, Wisconsin: Pale Green Orchid (*Platanthera flava var. herbiola*) Rare Species Survey**

1.0 Introduction

Cardno was contracted by the Wisconsin DOT to conduct a presence/absence survey for the State-threatened Pale Green Orchid (*Platanthera flava* var. *herbiola*) which may be present along either side (70' from center line) of the approximately 4.5 mile stretch of STH 13 between Morse Road and Cayuga Road located in Ashland County, Wisconsin (Project Area). The Project Area is identified on the attached Figure.

The Pale Green Orchid is known to occur within a variety of wetland habitats, including moist prairies, floodplain forests, and in ditches. Associated species include *Carex* spp., *Cornus stolonifera*, *Platanthera lacera*, *P. clavellata*, *Drosera rotundifolia*, *Carex stricta*, *Solidago* spp., *Onoclea sensibilis*, *Euthamia graminifolia*, and *Polygonum sagittatum*. Optimal survey dates occur during the species' blooming period, typically early June through early August (WDNR 2016).

2.0 Methods

On July 11th and July 25th – July 26th, 2016, Cardno staff completed surveys of the Project Area in conjunction with wetland delineation surveys also being conducted at the same time. The Project Area was reviewed with specific intent to document potentially suitable habitat locations for the Pale Green Orchid. Due to the variety of wetland habitats that this species may be found in, and the ability for this species to persist in wetlands that may not be considered 'high quality,' all wetlands and wetland boundaries within the Project Area were surveyed for the presence of Pale Green Orchid. These wetland locations are noted on the attached Figure.

Meander surveys of potentially suitable habitat locations were conducted by crews consisting of two individuals each. Crews were aware that the species can be easily camouflaged among other plants given its generally green color, including flower. Meander surveys proceeded in a fashion that allowed crew members to look before trampling vegetation. Crews were versed in the distinguishing characteristics between the target species' basal leaves and those of similar and more common type such as *Clintonia* or *Maianthemum* leaves. Other *Platanthera* leaves can also look similar, vegetatively and were discussed with the crews. Although our survey was scheduled during the optimal survey period, it was also noted that plants may not be flowering at the time of survey, therefore basal leaf identification may be required, if possible.

ArcGIS Online and GPS capable of sub-meter accuracy were utilized to map potentially suitable habitat boundaries (wetlands) and any populations of Pale Green Orchid identified.

3.0 Results

Although potentially suitable wetland habitat exists, field surveys did not identify Pale Green Orchid within the Project Area. Potentially suitable wetland habitat within the project area included a variety of wetland communities that were identified during the wetland delineation. The delineated wetland boundaries which serve as potentially suitable habitat are identified on the attached Figure. General descriptions of delineated wetland communities and representative photos are described below.

3.1 Wet Meadow

Approximately 8.6 acres of the Fresh (Wet) Meadow Community was identified within the Project Area. This was the most abundant wetland type which comprised 84% of the total wetlands identified. While several of the fresh (Wet) Meadow communities in the Project Area were dominated by Reed Canary Grass (*Phalaris arundinacea*), most of these wetlands contained native plant communities. Frequently observed species include Sedge species (*Carex* spp.), Canada Bluejoint (*Calamagrostis canadensis*), Rushes (*Juncus effusus* and *J. canadensis*), and Green Bulrush (*Scirpus atrovirens*). A representative view of this wetland community is provided in Photo 1, below.

3.2 Shallow Marsh

Approximately 0.88 acres of the Shallow Marsh Community was identified within the Project Area. This was the second most abundant wetland type which comprised approximately 9% of the total wetlands identified. This wetland community was typically dominated by Cattails (*Typha latifolia*) with sub-communities that included Common Rush (*Juncus effusus*), Green Bulrush (*Scirpus atrovirens*) and Canada Bluejoint (*Calamagrostis canadensis*). A representative view of this wetland community is provided in Photo 2, below.



Photo 1 Wet Meadow Wetland Community



Photo 2 Shallow Marsh Wetland Community

3.3 Wooded Swamp

Approximately 0.44 acres of the Wooded Swamp Community was identified within the Project Area. This was the third most abundant wetland type which comprised about 4% of the total wetlands identified. The areas of wooded swamp were included a variety of tree, including White Spruce (Picea glauca), Balsam Fir (*Abies balsamea*), Quaking Aspen (*Populus tremuloides*), White Cedar (*Thuja occidentalis*), American Elm (*Ulmus americana*), and Balsam Popular (*Populus balsamifera*). Herbaceous vegetation included Bunchberry (*Cornus canadensis*), Canada Bluejoint (*Calamagrostis canadensis*), and Sedges (*Carex* spp.). A representative view of this wetland community is provided in Photo 3, below.

3.4 Shrub Scrub

Approximately 0.21 acres of the Shrub Scrub Community was identified within the Project Area. This was the fourth most abundant wetland type which comprised approximately 2% of the total wetlands identified. This wetland type was typically dominated by Speckled Alder (*Alnus incana*), intermixed with patches of Red Maple (*Acer rubrum*), Sandbar Willow (*Salix interior*), and White Meadow Sweet (*Spirea alba*). Herbaceous species include Canada Bluejoint (*Calamagrostis canadensis*), Sensitive Fern (*Onoclea sensibilis*), and sedge species (*Carex* spp.). A representative view of this wetland community is provided in Photo 4, below.

3.5 Riparian Emergent Wetland

Approximately 0.13 acres of the Riparian Wetland (emergent) Community was identified within the Project Area. This was the fifth most abundant wetland type which comprised approximately 1% of the total wetlands identified. This area consisted of Canada Bluejoint (*Calamagrostis canadensis*) with patches of willow (*Salix bebbiana*), Jewelweed (*Impatiens capensis*), Fireweed (*Chamaenerion angustifolium*), and Arrowleaf Tearthumb (*Persicaria sagittata*). A representative view of this wetland community is provided in Photo 5, below.



Photo 3 Wooded Swamp Wetland Community



Photo 4 Shrub Scrub Wetland Community



Photo 5 Riparian Emergent Wetland Community

4.0 Summary

In summary, Cardno was contracted complete Pale Green Orchid (*Platanthera flava var. herbiola*) surveys within 70' of the center line of STH 13 between Morse Road and Cayuga Road, Ashland County, Wisconsin. Surveys were conducted on July 11th and July 25th – July 26th, 2016 with specific intent to document potentially suitable habitat locations (wetlands) within the Project Area. Crews versed in Pale Green Orchid identification carefully conducted meander surveys of these locations. Field surveys did not identify Pale Green Orchid within the Project Area. Potentially suitable wetland habitat which was surveyed is identified on Figure 1.

5.0 **Literature** Cited

The following information sources were referenced within this memo:

Wisconsin DNR (WDNR) Pale Green Orchid (*Platanthera flava var. herbiola*). Life History. http://dnr.wi.gov/topic/EndangeredResources/Plants.asp?mode=detail&SpecCode=PMORC1Y082. Accessed August 12, 2016.

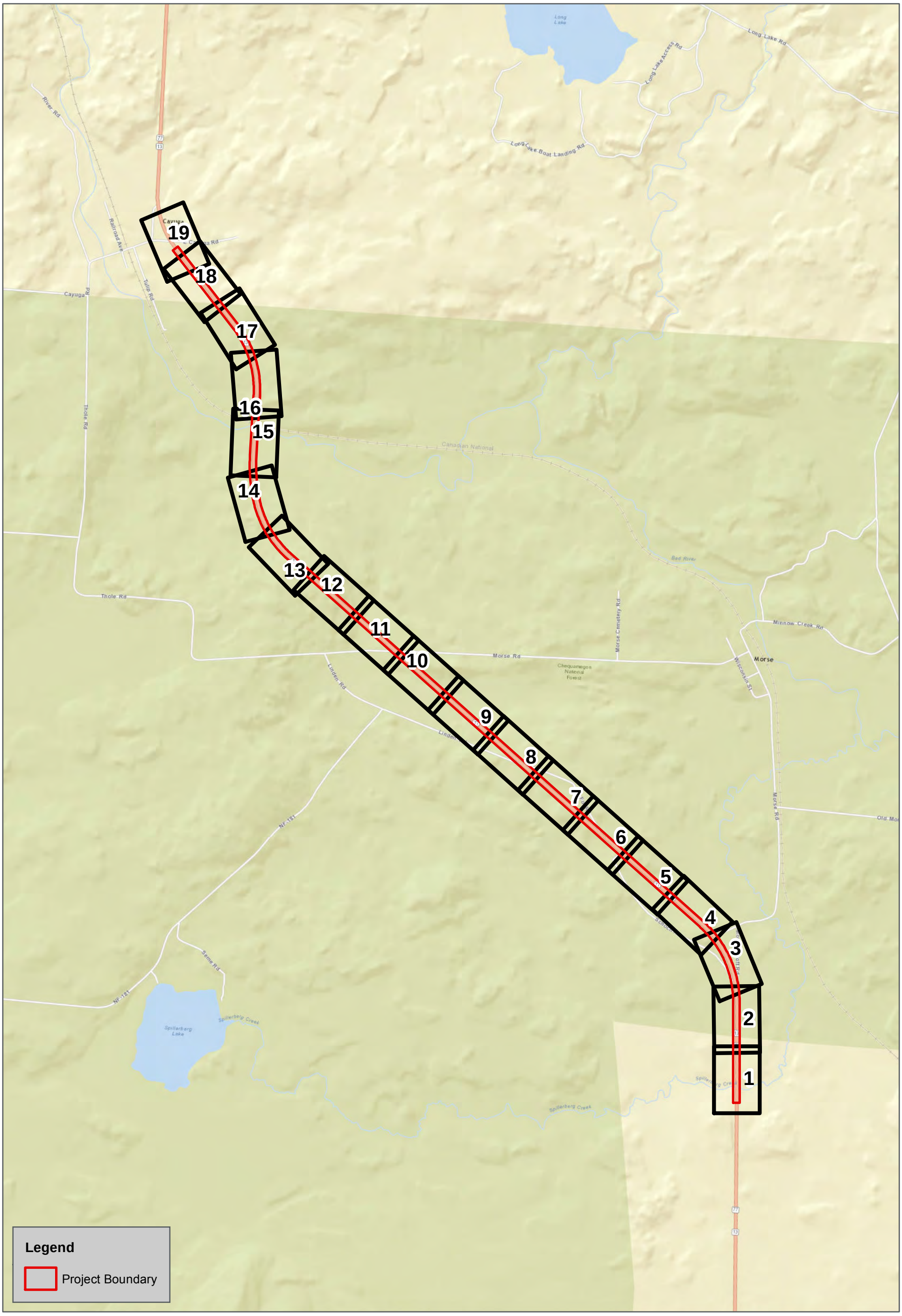
Sincerely,



Zachary Waechter
Senior Project Scientist, WPIT
Cardno
zachary.waechter@cardno.com
608-260-5847

Attachment:

Survey Locations - **(Figure 1)**



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

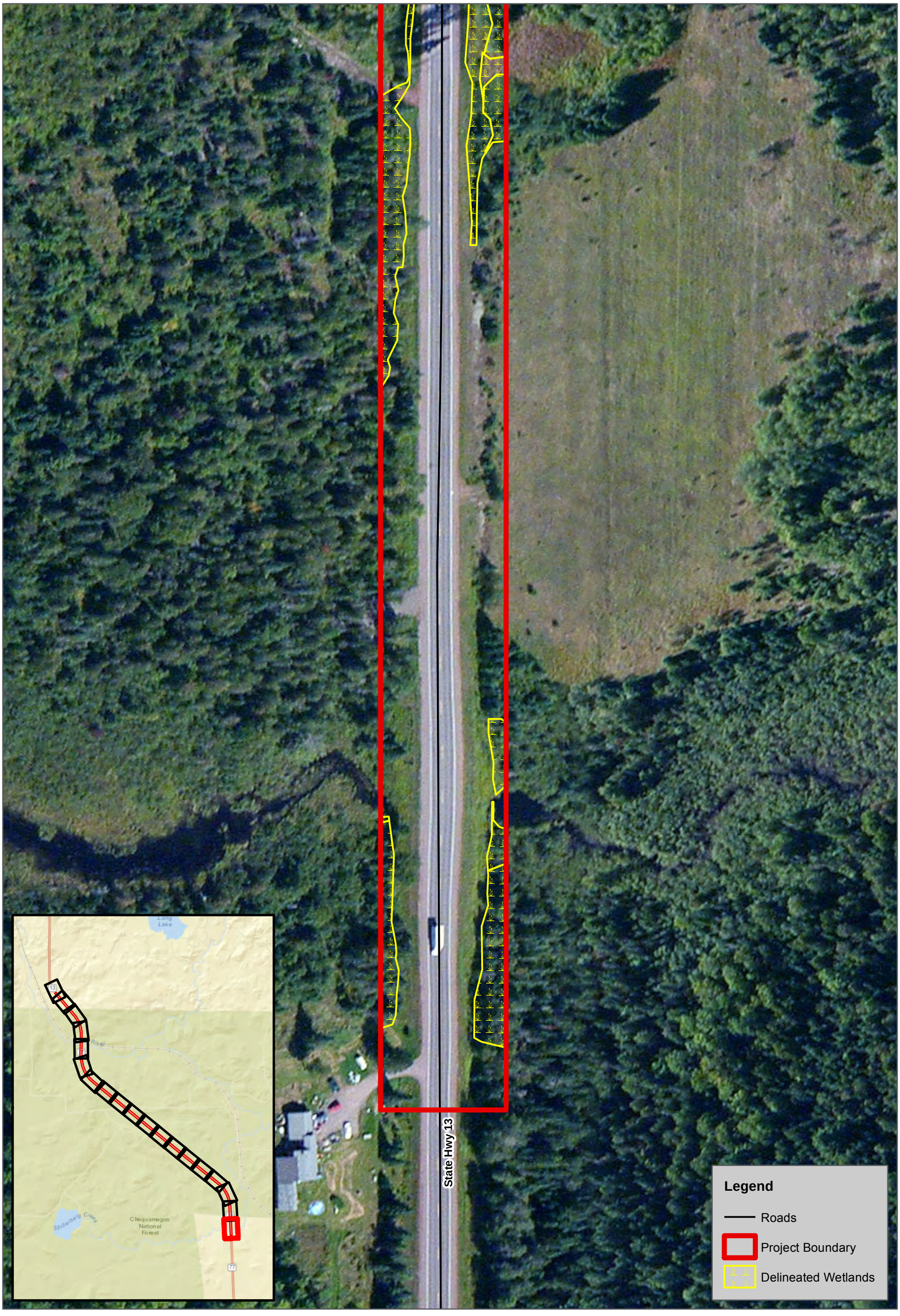
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,000 2,000 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey - Overview.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

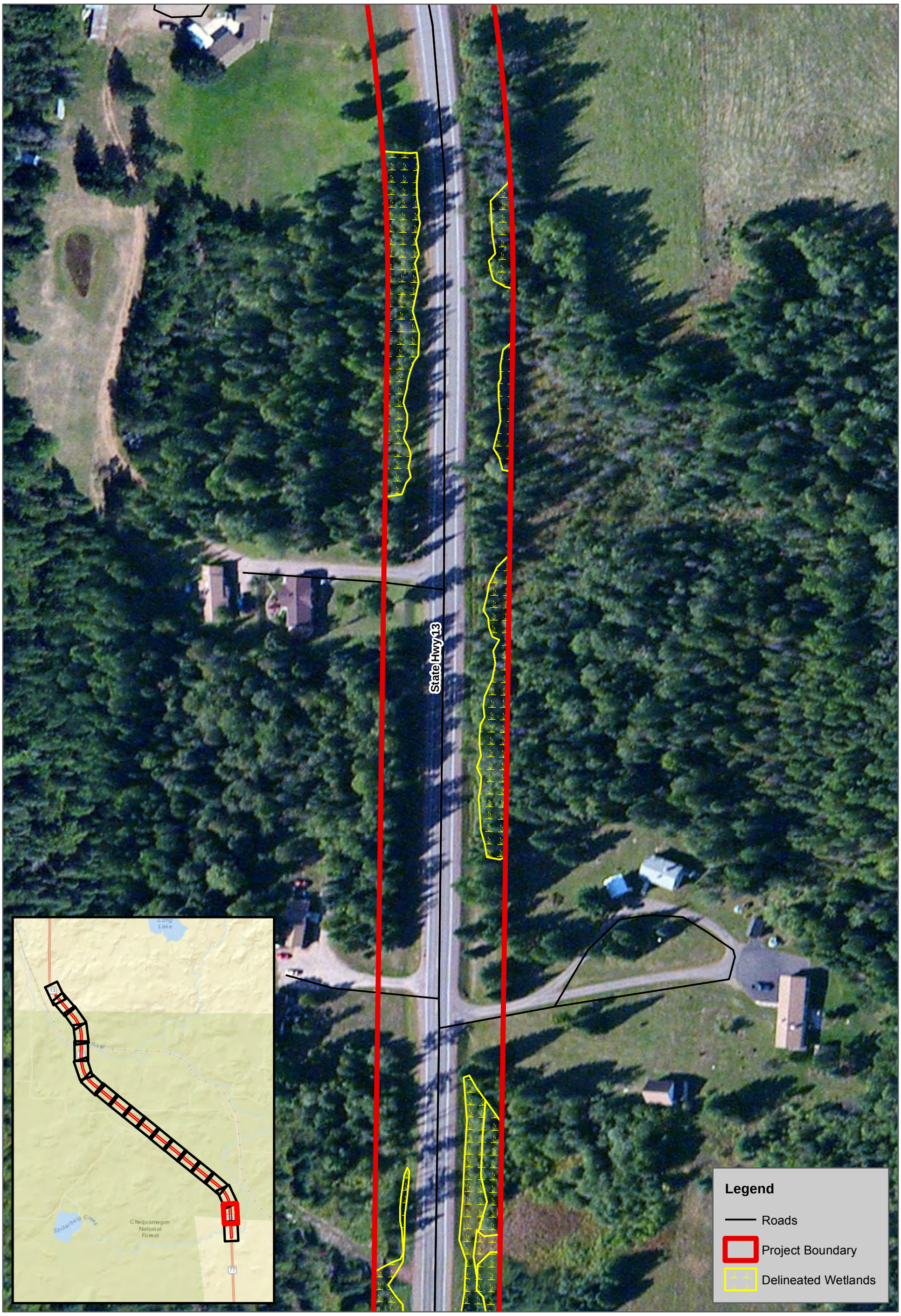
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

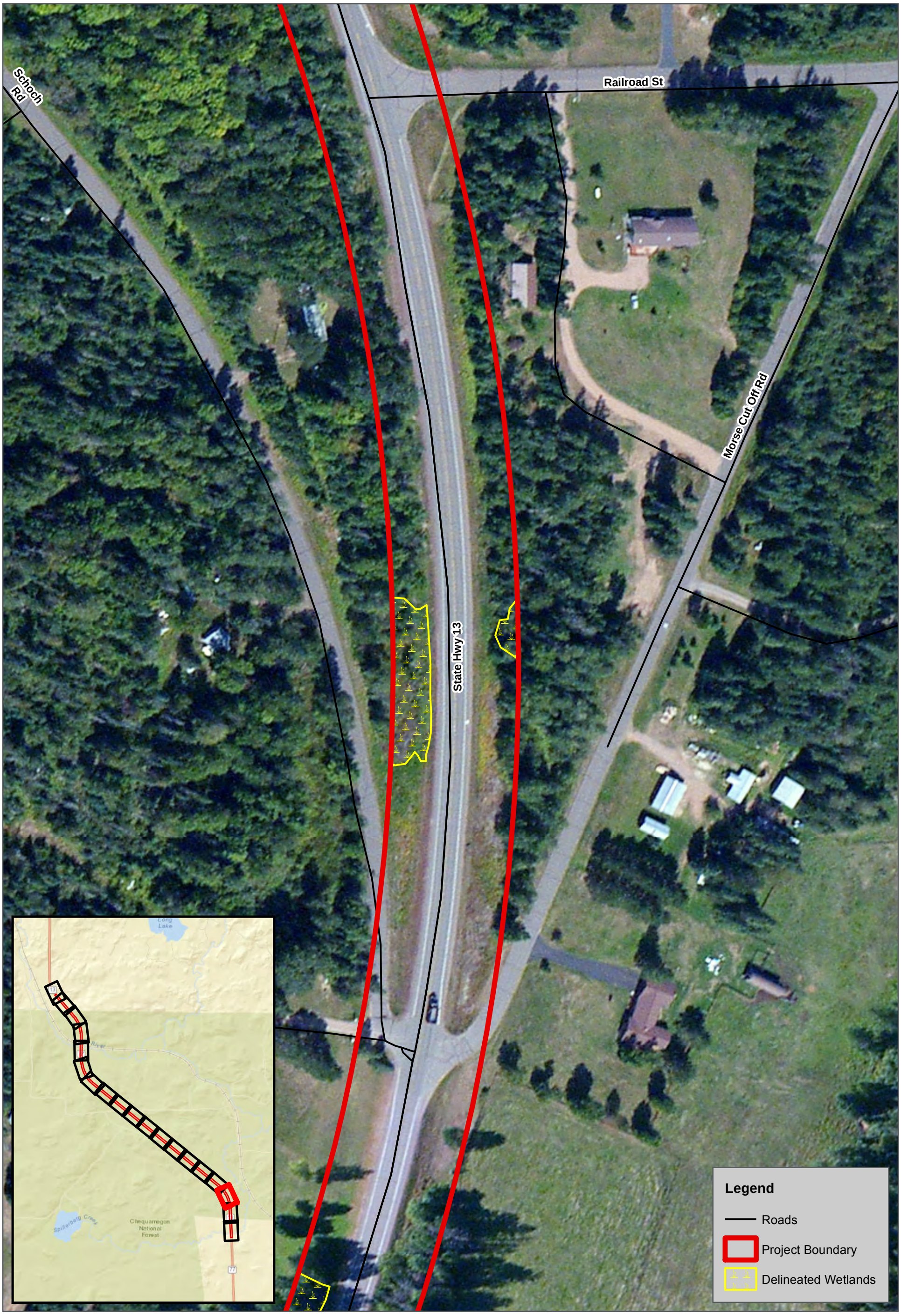
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Survey Location

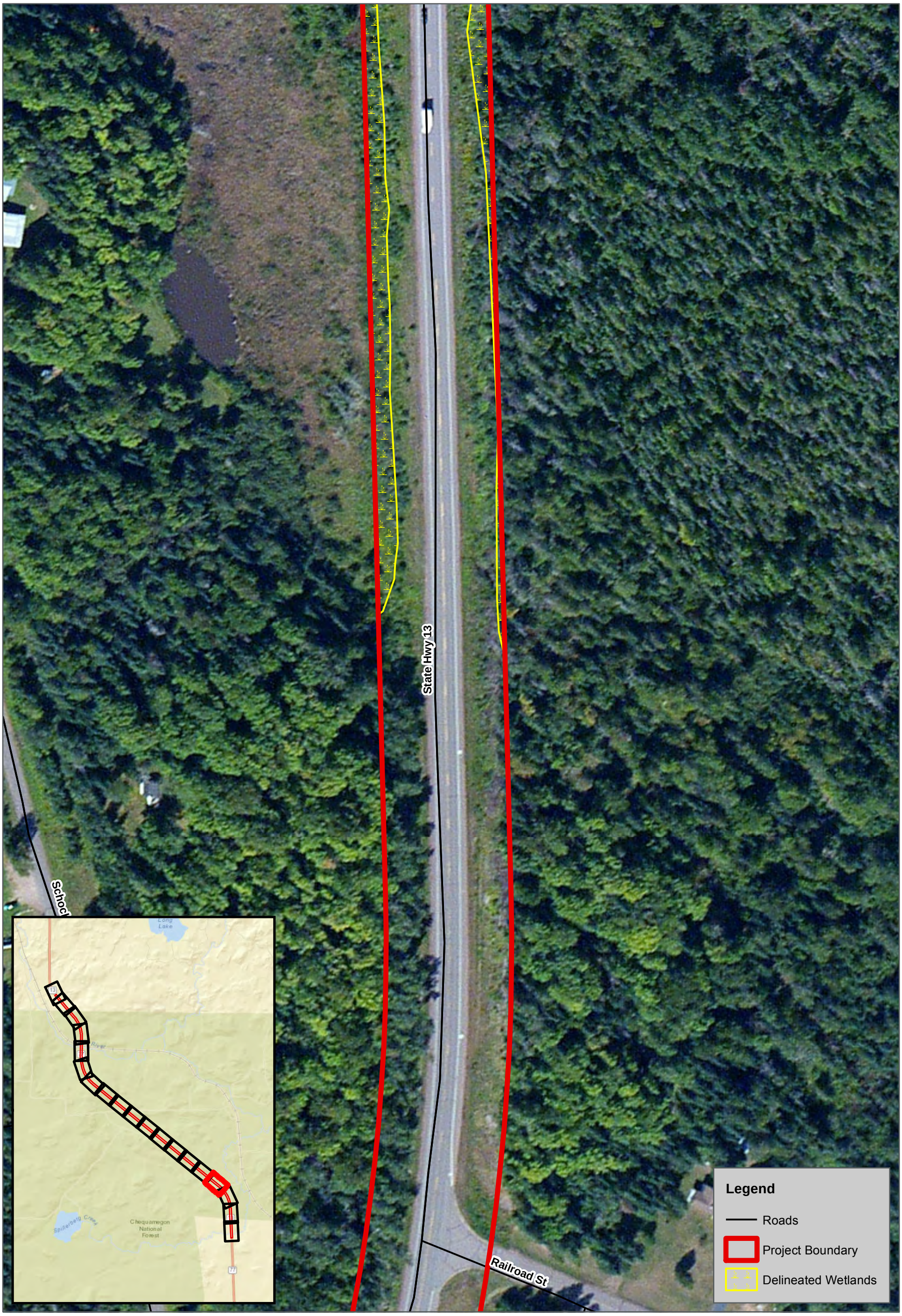
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

Schoch Rd

State Hwy 13



Legend

- Roads
- Project Boundary
- Delineated Wetlands

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

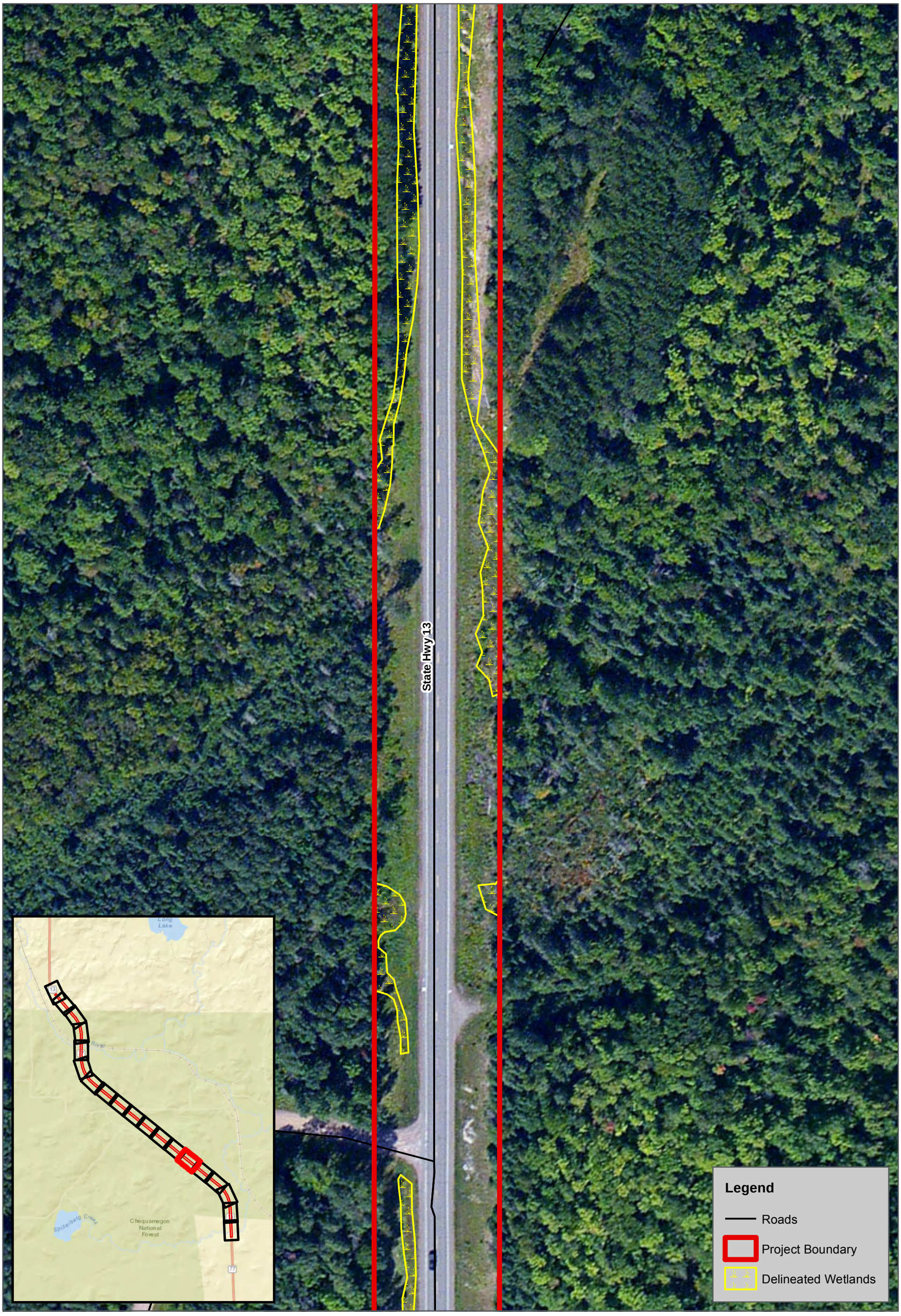
0 50 100 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

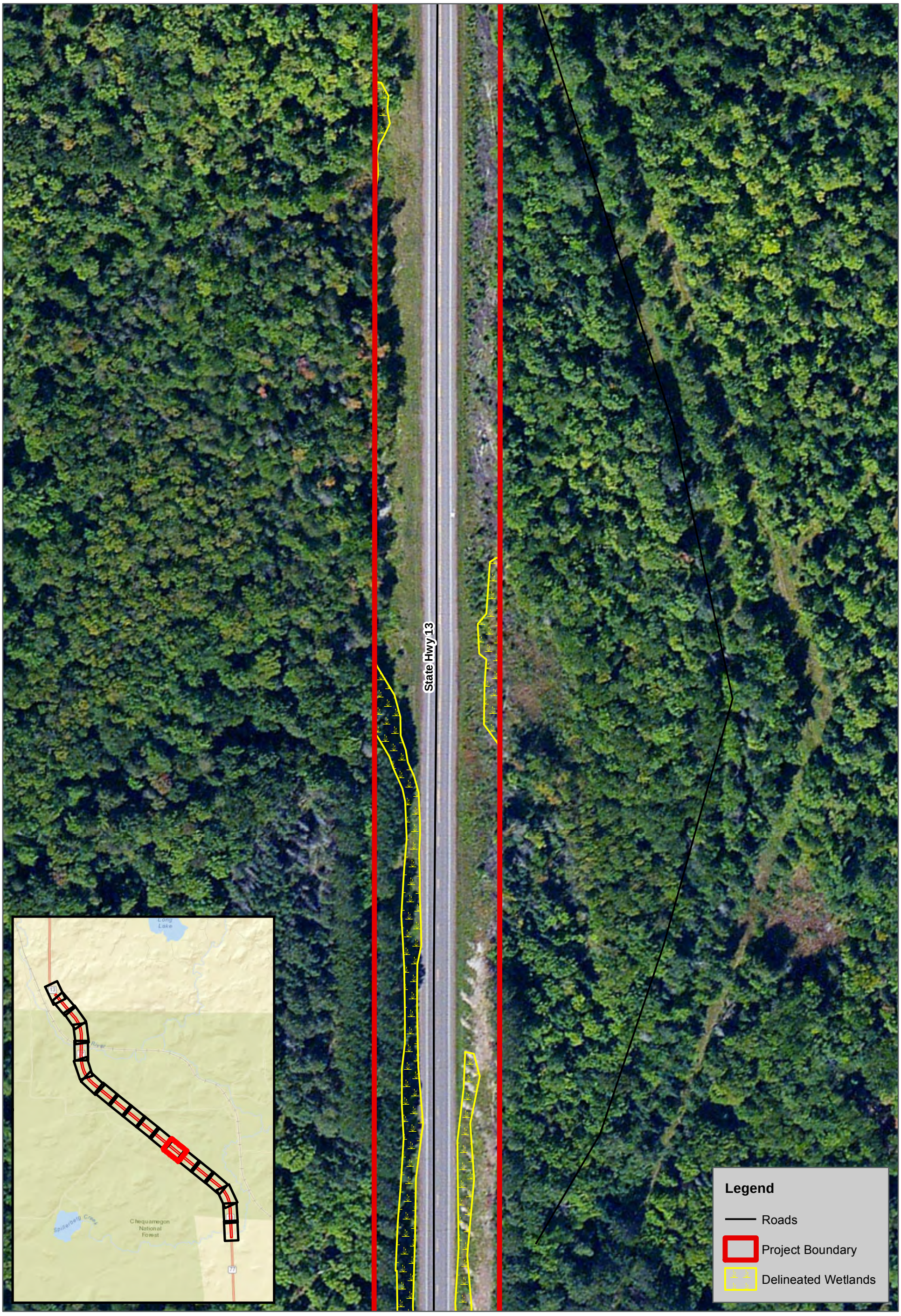
0 50 100 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Project No. J157001M16

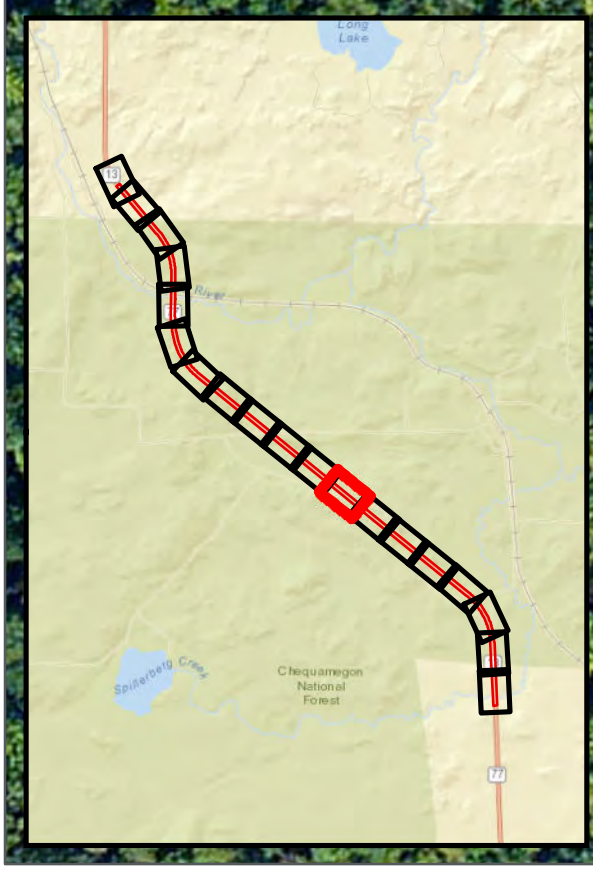
Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

Linden Rd
Forest Rd 355

State Hwy 13



Legend

- Roads
- Project Boundary
- Delineated Wetlands

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

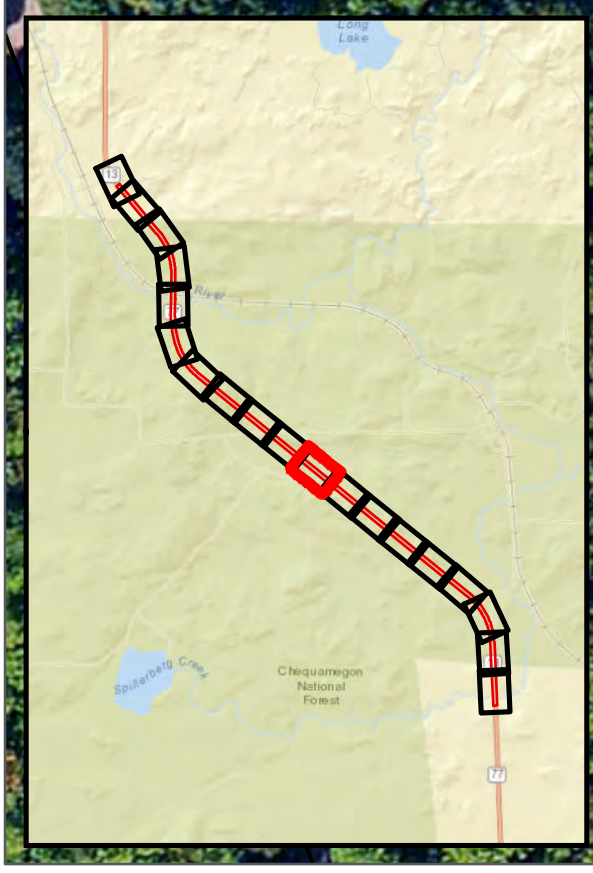
0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

State Hwy 13



Legend

- Roads
- Project Boundary
- Delineated Wetlands

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M16

Survey Location

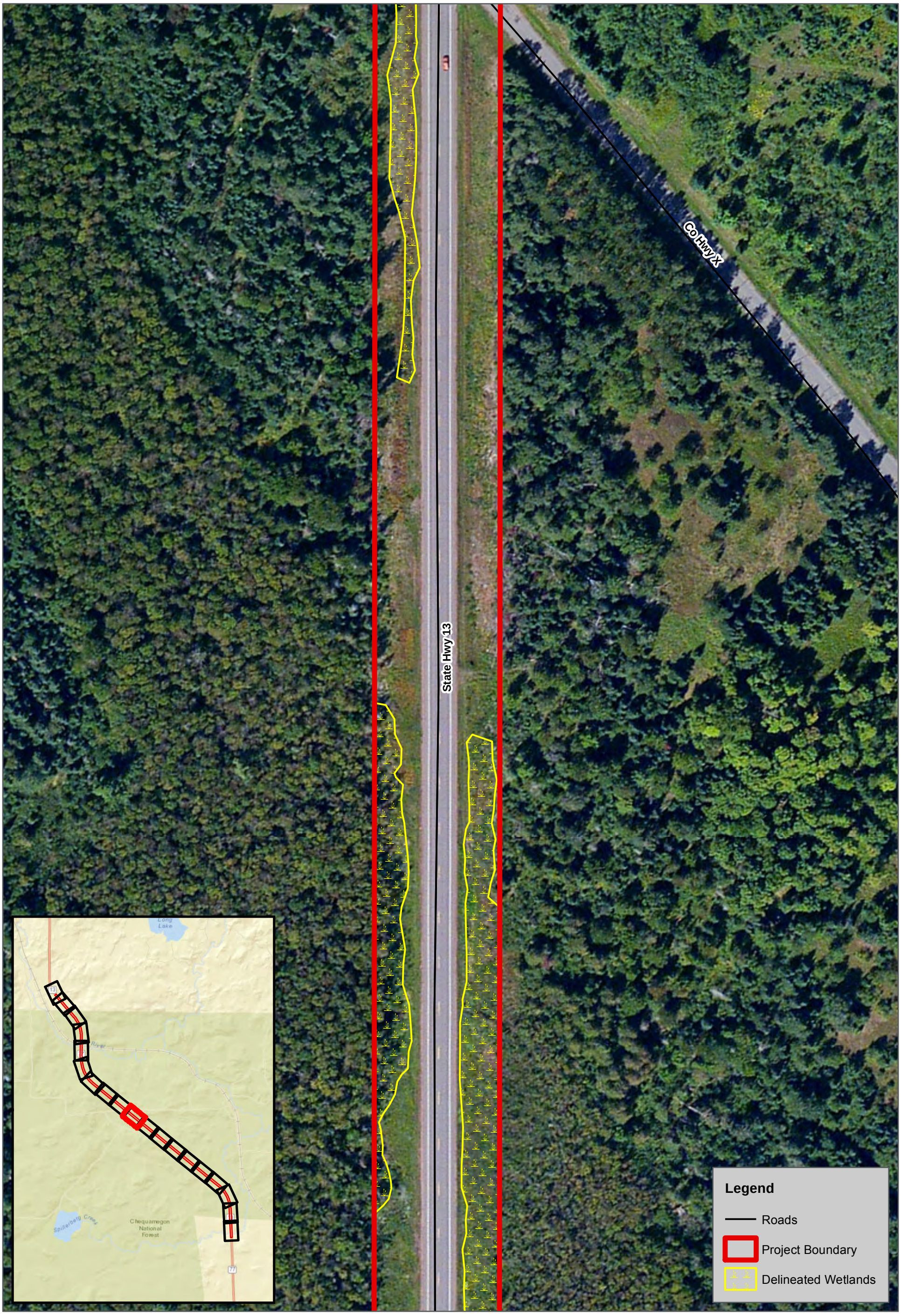
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

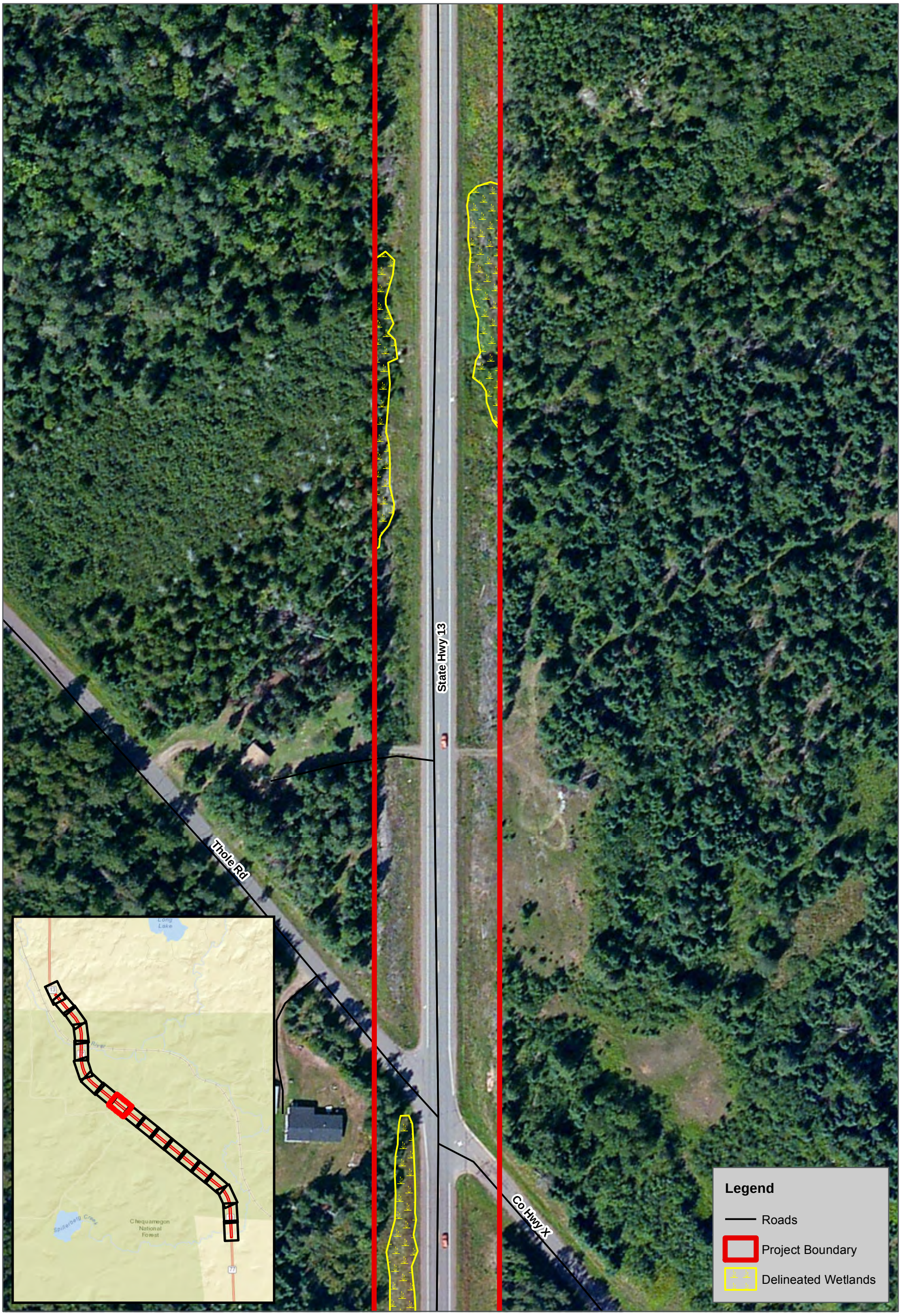
0 50 100 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

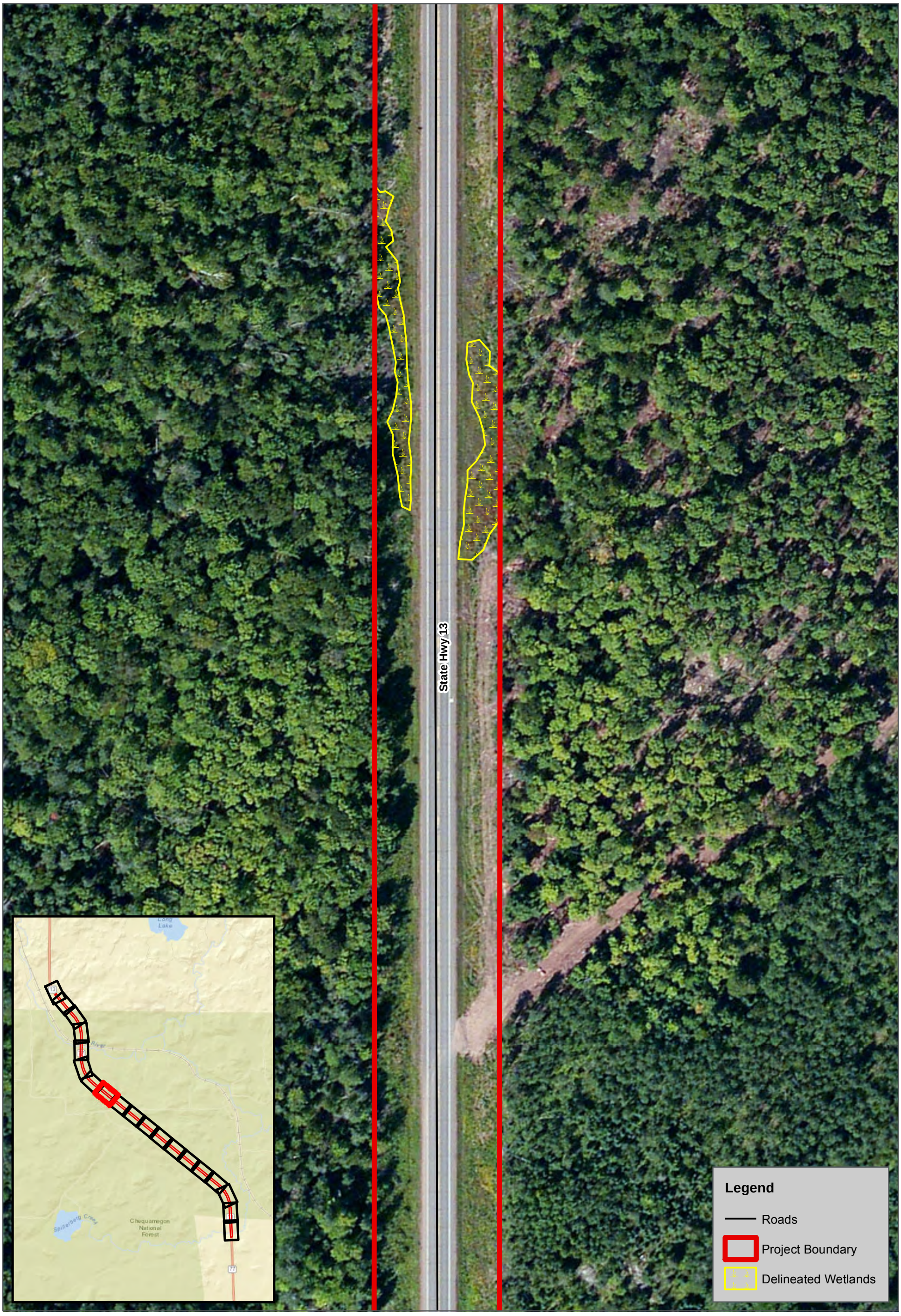
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

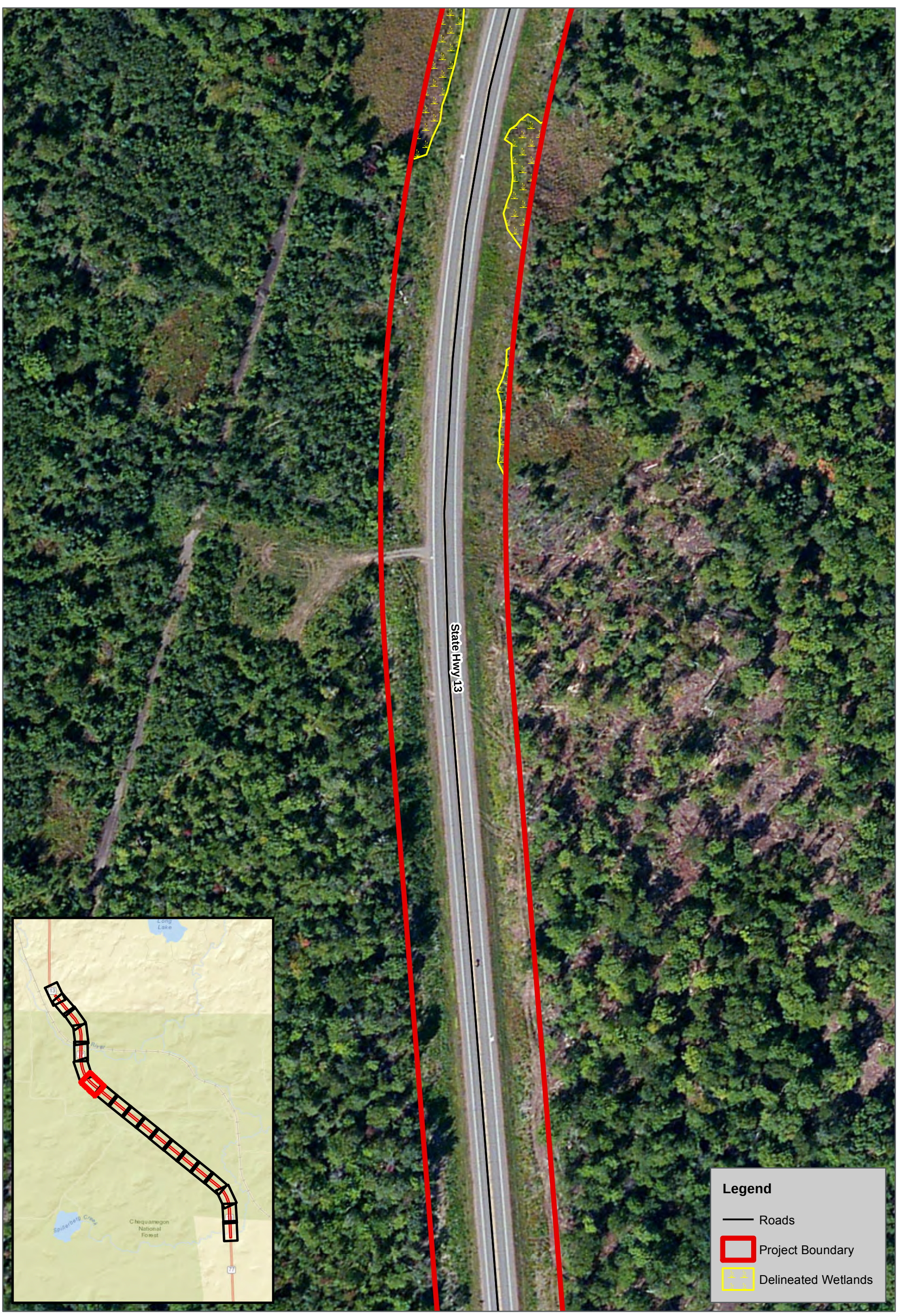
0 50 100 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

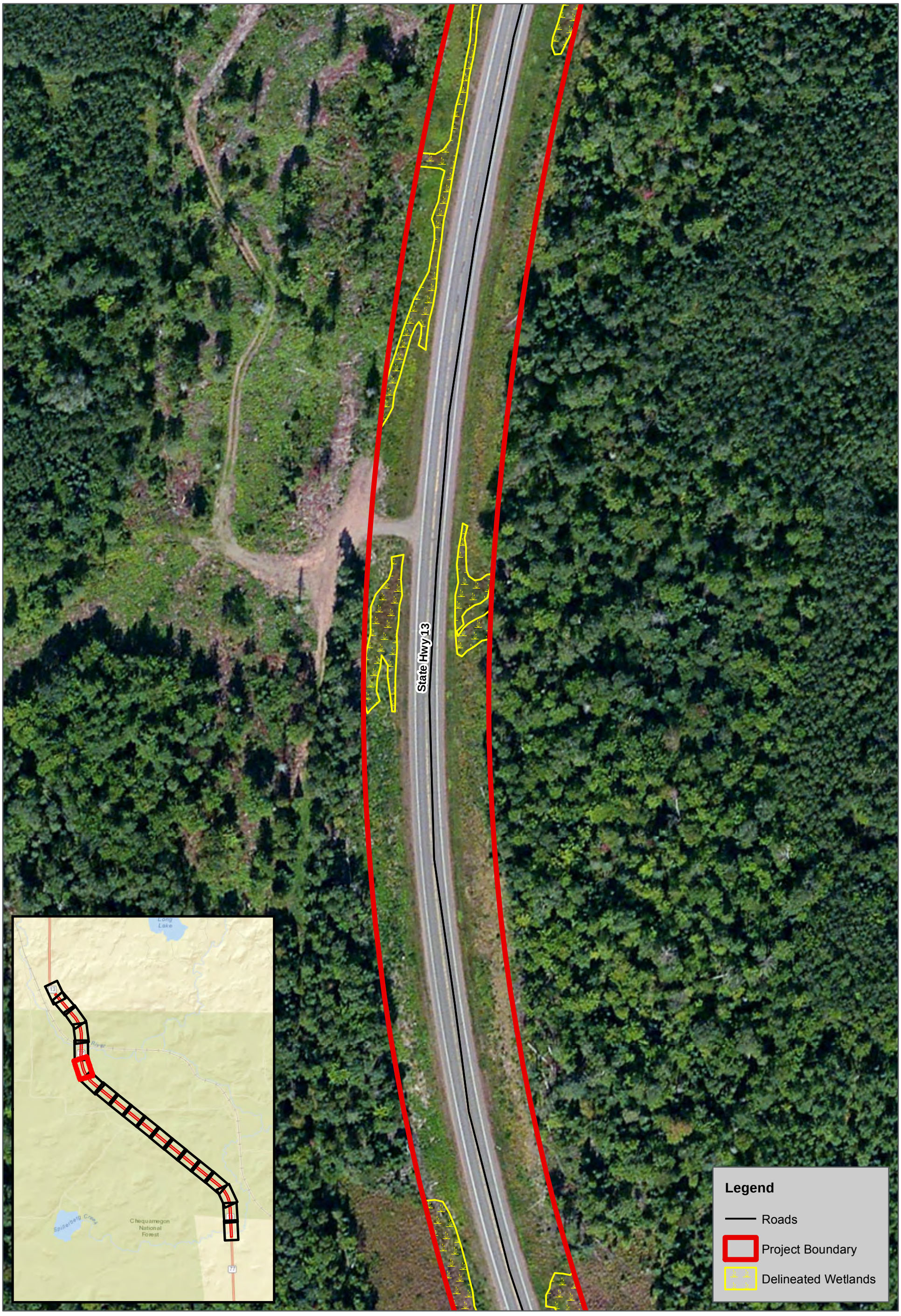
0 50 100 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W
E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

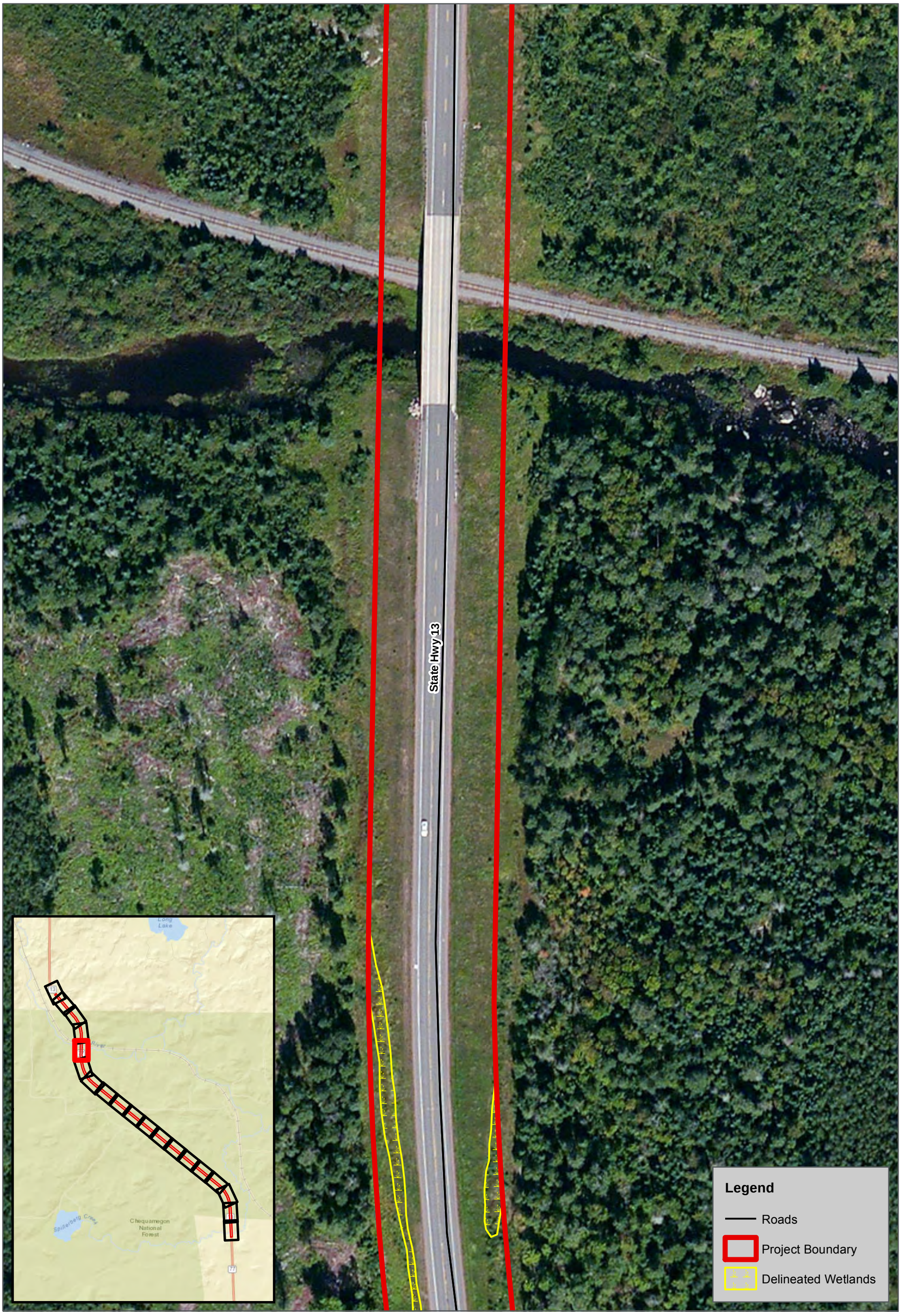
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M16

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

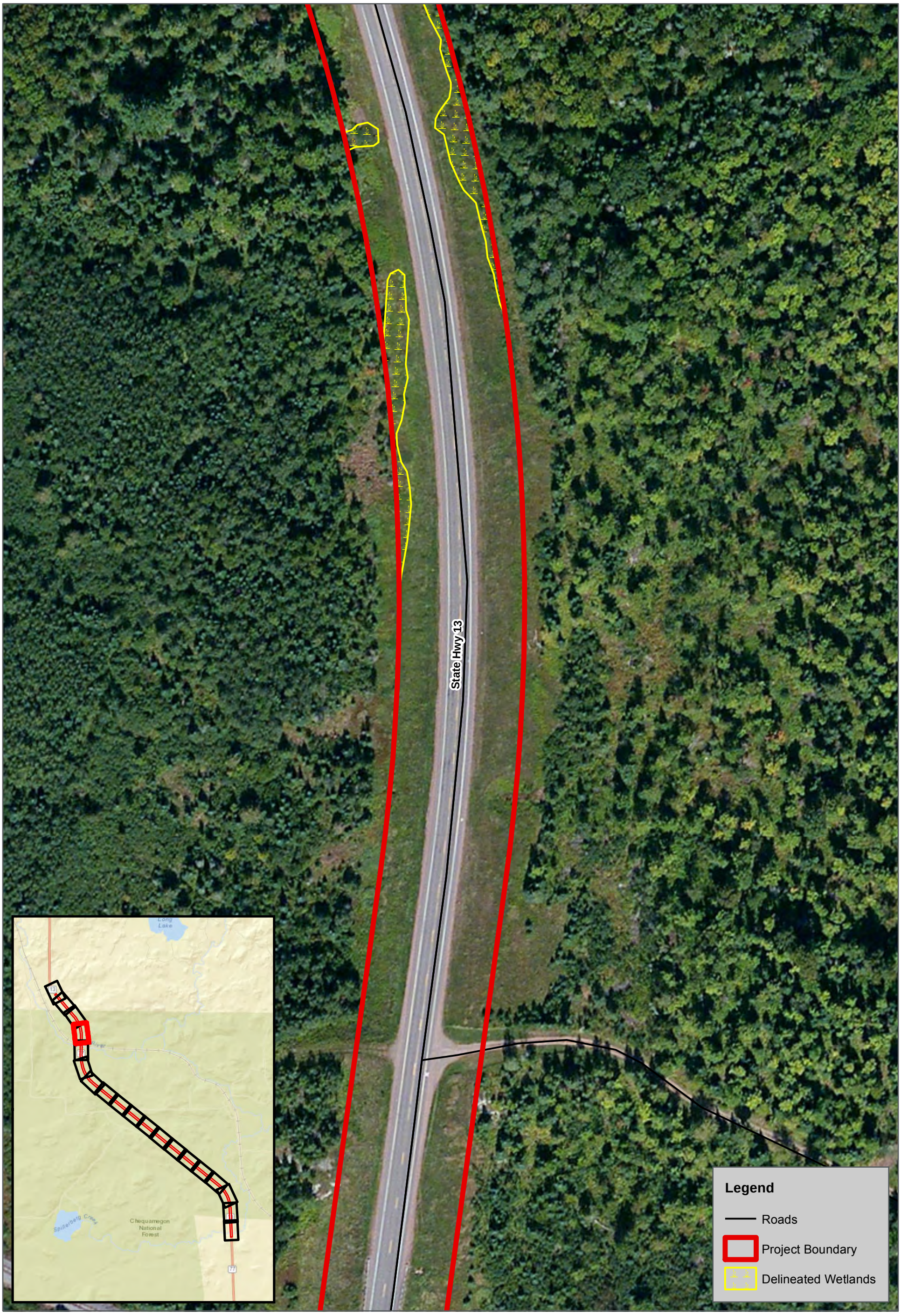
STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

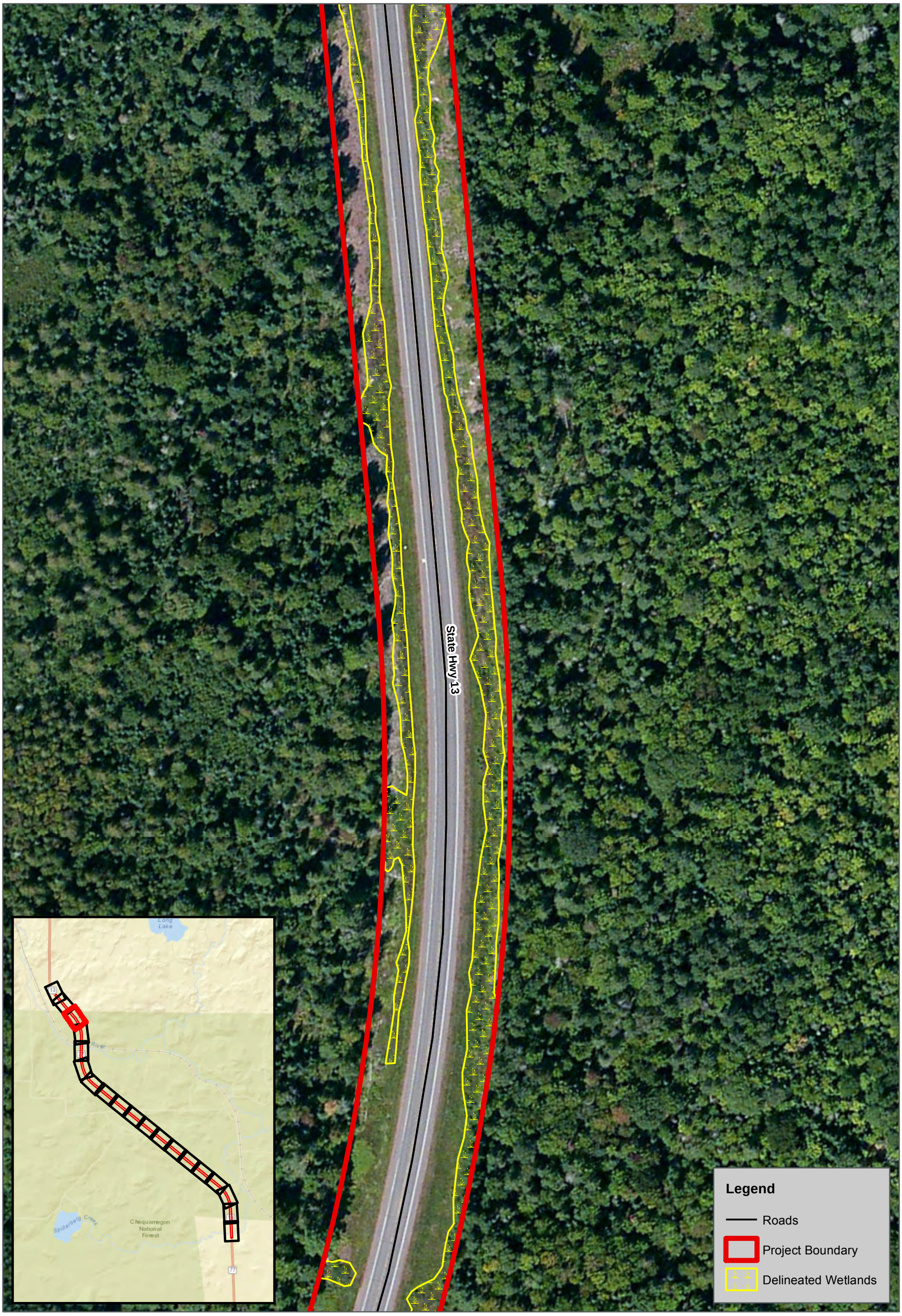
0 50 100 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

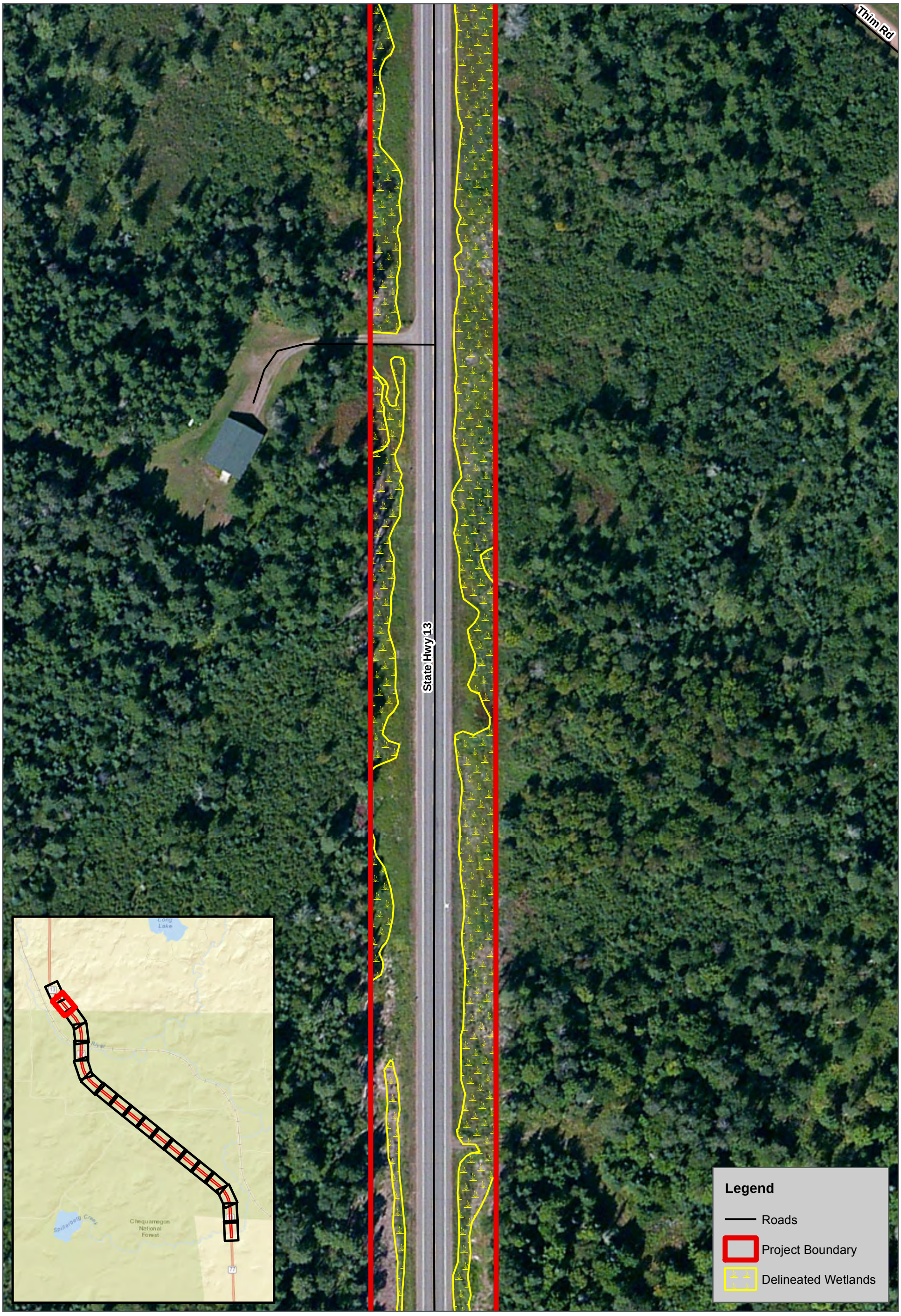
0 50 100 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

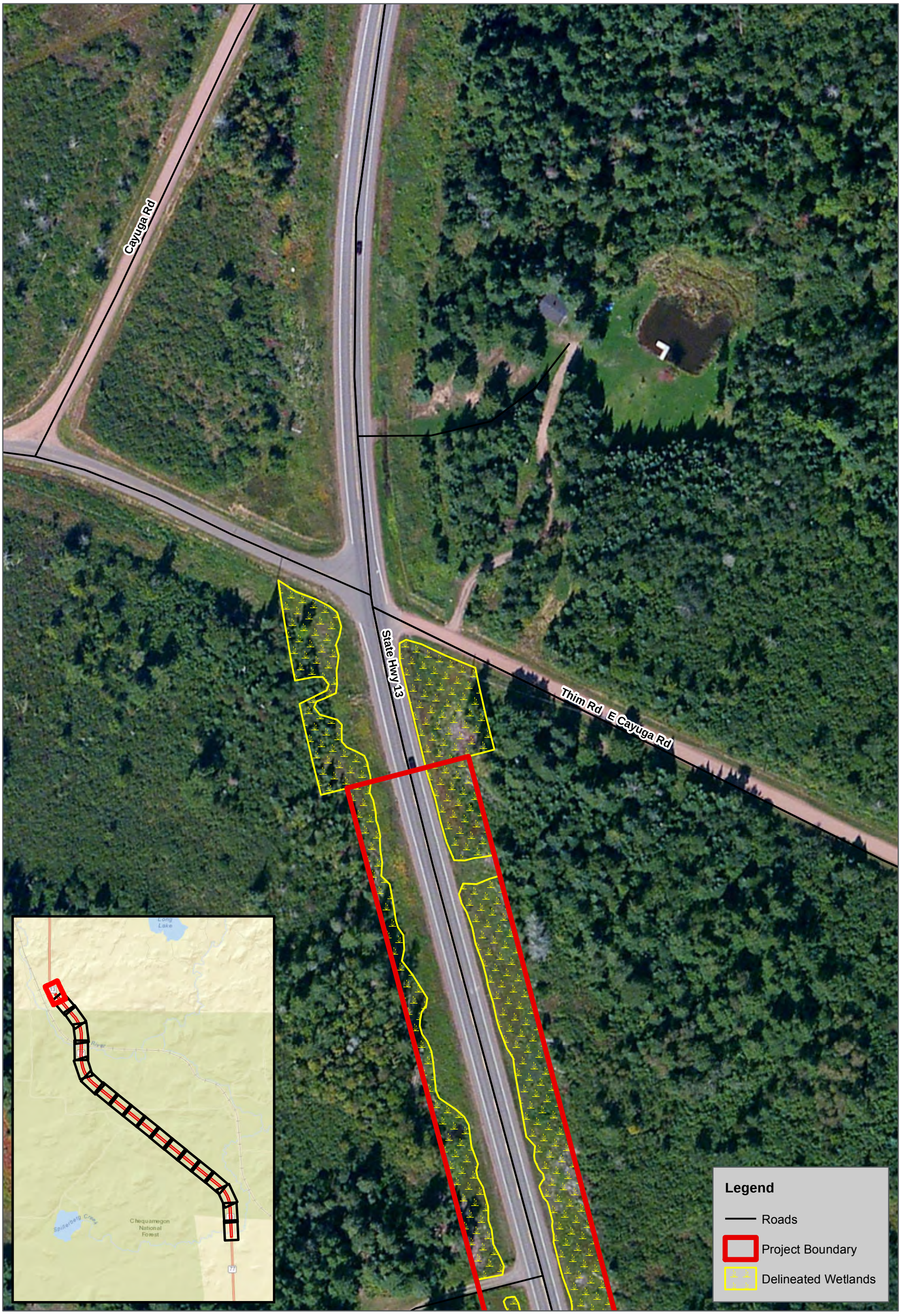
0 50 100 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location

STH 13: Morse Rd - Cayuga Rd
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Project No. J157001M16

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/22/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\16_STH 13 Morse to Cayuga Rd\GIS\MXD\Delineation\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

Memorandum

Cardno

6140 Cottonwood Drive
Suite A
Fitchburg, Wisconsin 53719
USA

Phone 608 661 2955
Fax 608 661 2961

www.cardno.com

Date: August 31, 2016

To: Amy Adrihan, Environmental Coordinator, Wisconsin Department of Transportation

From: Zachary Waechter, Senior Project Scientist, Cardno

RE: **STH 13: Cayuga Road-Jefferson Avenue, Ashland County, WI: Pale Green Orchid (*Platanthera flava var. herbiola*) Rare Species Survey (CONFIDENTIAL)**

1.0 Introduction

Cardno was contracted by the Wisconsin DOT to conduct a presence/absence survey for the State-threatened Pale Green Orchid (*Platanthera flava* var. *herbiola*) which may be present along either side (100' from center line) of the approximately 5.5 mile stretch of STH 13 between Cayuga Road to Jefferson Avenue located in Ashland County, Wisconsin (Project Area). The Project Area is identified on the attached Figure.

The Pale Green Orchid is known to occur within a variety of wetland habitats, including moist prairies, floodplain forests, and in ditches. Associated species include *Carex* spp., *Cornus stolonifera*, *Platanthera lacera*, *P. clavellata*, *Drosera rotundifolia*, *Carex stricta*, *Solidago spp.*, *Onoclea sensibilis*, *Euthamia graminifolia*, and *Polygonum sagittatum*. Optimal survey dates occur during the species' blooming period, typically early June through early August (WDNR 2016).

2.0 Methods

On July 27th – July 28th, 2016, Cardno staff completed surveys of the Project Area in conjunction with wetland delineation surveys also being conducted at the same time. The Project Area was reviewed with specific intent to document potentially suitable habitat locations for the Pale Green Orchid. Due to the variety of wetland habitats that this species may be found in, and the ability for this species to persist in wetlands that may not be considered 'high quality,' all wetlands and wetland boundaries within the Project Area were surveyed for the presence of Pale Green Orchid. These wetland locations are noted on the attached Figure.

Meander surveys of potentially suitable habitat locations were conducted by crews consisting of two individuals each. Crews were aware that the species can be easily camouflaged among other plants given its generally green color, including flower. Meander surveys proceeded in a fashion that allowed crew members to look before trampling vegetation. Crews were versed in the distinguishing characteristics between the target species' basal leaves and those of similar and more common type such as *Clintonia* or *Maianthemum* leaves. Other *Platanthera* leaves can also look similar, vegetatively and were discussed with the crews. Although our survey was scheduled during the optimal survey period, it was also noted that plants may not be flowering at the time of survey, therefore basal leaf identification may be required, if possible.

ArcGIS Online and GPS capable of sub-meter accuracy were utilized to map potentially suitable habitat boundaries (wetlands) and any populations of Pale Green Orchid identified.

3.0 Results

Although potentially suitable wetland habitat exists, field surveys did not identify Pale Green Orchid within the Project Area. Potentially suitable wetland habitat within the project area included a variety of wetland communities that were identified during the wetland delineation. The delineated wetland boundaries which serve as potentially suitable habitat are identified on the attached Figure. General descriptions of delineated wetland communities and representative photos are provided below.

3.1 Wet Meadow

Approximately 13.03 acres of the Fresh (Wet) Meadow Community was identified within the Project Area. This was the most abundant wetland type which comprised 66% of the total wetlands identified. While several of the Fresh (Wet) Meadow communities in the Project Area were dominated by Reed Canary Grass (*Phalaris arundinacea*), most of these wetlands contained native plant communities. Frequently observed species include Sedge species (*Carex* spp.), Canada Bluejoint (*Calamagrostis canadensis*), Rushes (*Juncus effusus* and *J. canadensis*), Green Bulrush (*Scirpus atrovirens*), and Giant Goldenrod (*Solidago gigantea*). A representative view of this wetland community is provided in Photo 1, below.

3.2 Wooded Swamp

Approximately 2.28 acres of the Wooded Swamp Community was identified within the Project Area. This was the second most abundant wetland type which comprised about 12% of the total wetlands identified. The areas of wooded swamp were included a variety of trees, including Balsam Fir (*Abies balsamea*, FAC), Quaking Aspen (*Populus tremuloides*), Black Ash (*Fraxinus nigra*), Red Maple (*Acer rubrum*), American Elm (*Ulmus americana*), and Balsam Popular (*Populus balsamifera*). Herbaceous vegetation included Canada Bluejoint (*Calamagrostis canadensis*), Manna Grass (*Glyceria canadensis*), and Sedges (*Carex* spp.). A representative view of this wetland community is provided in Photo 2, below.



Photo 1 Wet Meadow Wetland Community



Photo 2 Wooded Swamp Wetland Community

3.3 Riparian Emergent Wetland

Approximately 2.05 acres of the Riparian Wetland (emergent) Community was identified within the Project Area. This was the third most abundant wetland type which comprised approximately 10% of the total wetlands identified. This area generally consisted of Canada Bluejoint (*Calamagrostis canadensis*) and Reed Canary Grass (*Phalaris arundinacea*) with patches of Common Rush (*Juncus effusus*) and sedges (*Carex* spp.). A representative view of this wetland community is provided in Photo 3, below.

3.4 Shrub Scrub

Approximately 1.37 acres of the Shrub Scrub Community was identified within the Project Area. This was the fourth most abundant wetland type which comprised approximately 7% of the total wetlands identified. This wetland type was typically dominated by Speckled Alder (*Alnus incana*), and Dogwood (*Cornus* spp.) intermixed with patches of Quaking Aspen (*Populus tremuloides*). Herbaceous species include Canada Bluejoint (*Calamagrostis canadensis*), Reed Canary Grass (*Phalaris arundinacea*), Sensitive Fern (*Onoclea sensibilis*), and sedge species (*Carex* spp.). A representative view of this wetland community is provided in Photo 4, below.



Photo 3 Riparian Emergent Wetland Community



Photo 4 Shrub Scrub Wetland Community

3.5 Riparian Wooded Wetland

Approximately 0.84 acres of the Riparian Wooded Wetland Community was identified within the Project Area. This was the fifth most abundant wetland type which comprised approximately 4% of the total wetlands identified. This area was generally dominated by Balsam Fir (*Abies balsamea*) and Black Ash (*Fraxinus nigra*) with areas of Speckled Alder (*Alnus incana*) Jewelweed (*Impatiens capensis*) and Sedges (*Carex spp*.). A representative view of this wetland community is provided in Photo 5, below.

3.6 Shallow Marsh

Approximately 0.08 acres of the Shallow Marsh Community was identified within the Project Area. This was the least abundant wetland type which comprised approximately less than 1% of the total wetlands identified. This wetland community was dominated by Broadleaf Arrowhead (*Sagittaria latifolia*) and (*Calamagrostis canadensis*). A representative view of this wetland community is provided in Photo 6, below.



Photo 2 Riparian Wooded Wetland Community.



Photo 1 Shallow Marsh Wetland Community.

4.0 Summary

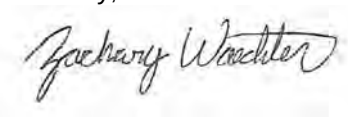
In summary, Cardno was contracted complete Pale Green Orchid (*Platanthera flava var. herbiola*) surveys within 100' of the center line of STH 13 between Cayuga Road and Jefferson Avenue, Ashland County, Wisconsin. Surveys were conducted from July 27th – July 28th, 2016 with specific intent to document potentially suitable habitat locations (wetlands) within the Project Area. Crews versed in Pale Green Orchid identification carefully conducted meander surveys of these locations. Field surveys did not identify Pale Green Orchid within the Project Area. Potentially suitable wetland habitat which was surveyed is identified on Figure 1.

5.0 Literature Cited

The following information sources were referenced within this memo:

Wisconsin DNR (WDNR) Pale Green Orchid (*Platanthera flava var. herbiola*). Life History. http://dnr.wi.gov/topic/EndangeredResources/Plants.asp?mode=detail&SpecCode=PMORC1Y082. Accessed August 12, 2016.

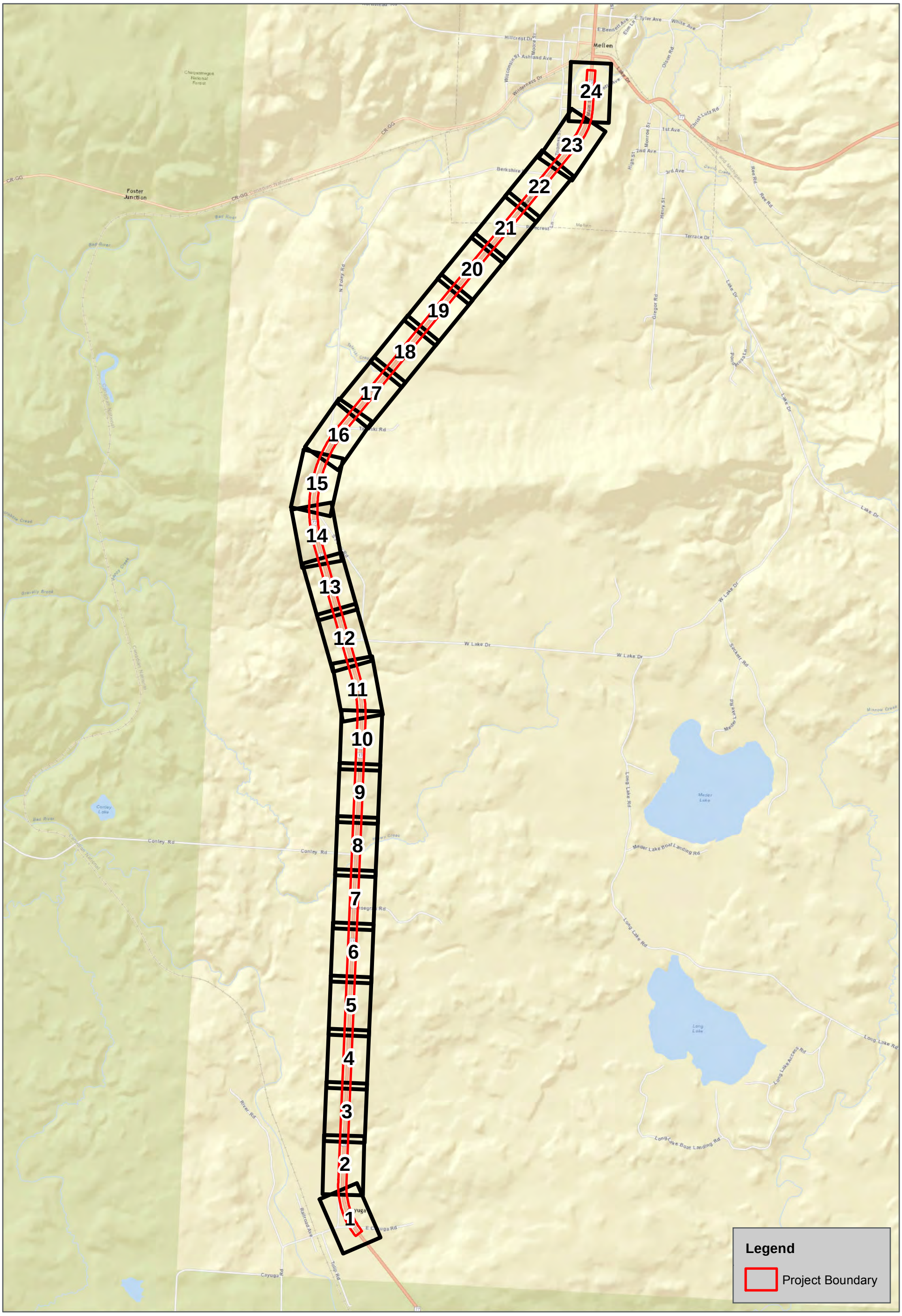
Sincerely,



Zachary Waechter
Senior Project Scientist, WPIT
Cardno
zachary.waechter@cardno.com
608-260-5847

Attachment:

Survey Locations - **(Figure 1)**



N

W E

S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 1,250 2,500 Feet

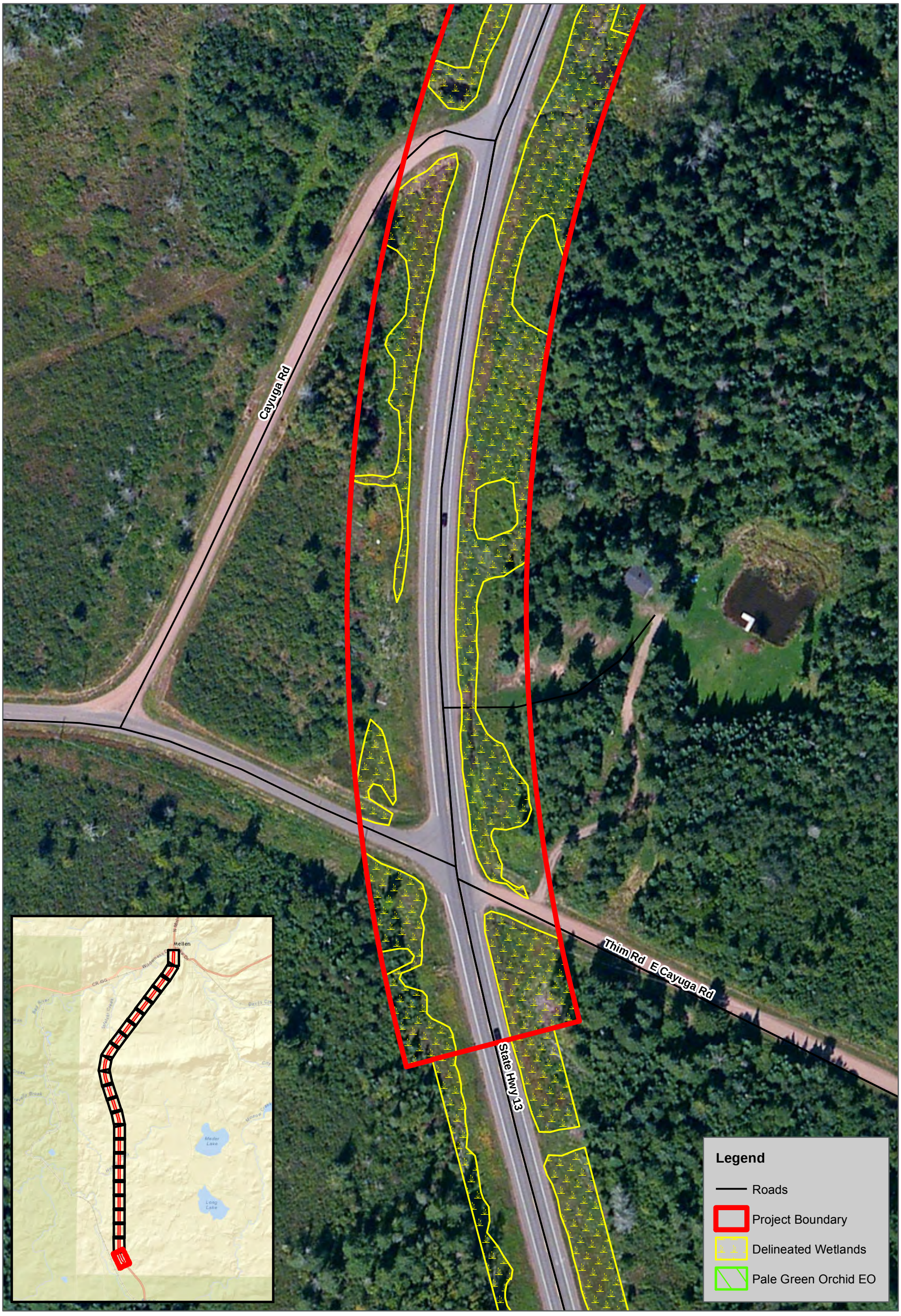
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/22/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey - Overview.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M17

Survey Location - CONFIDENTIAL

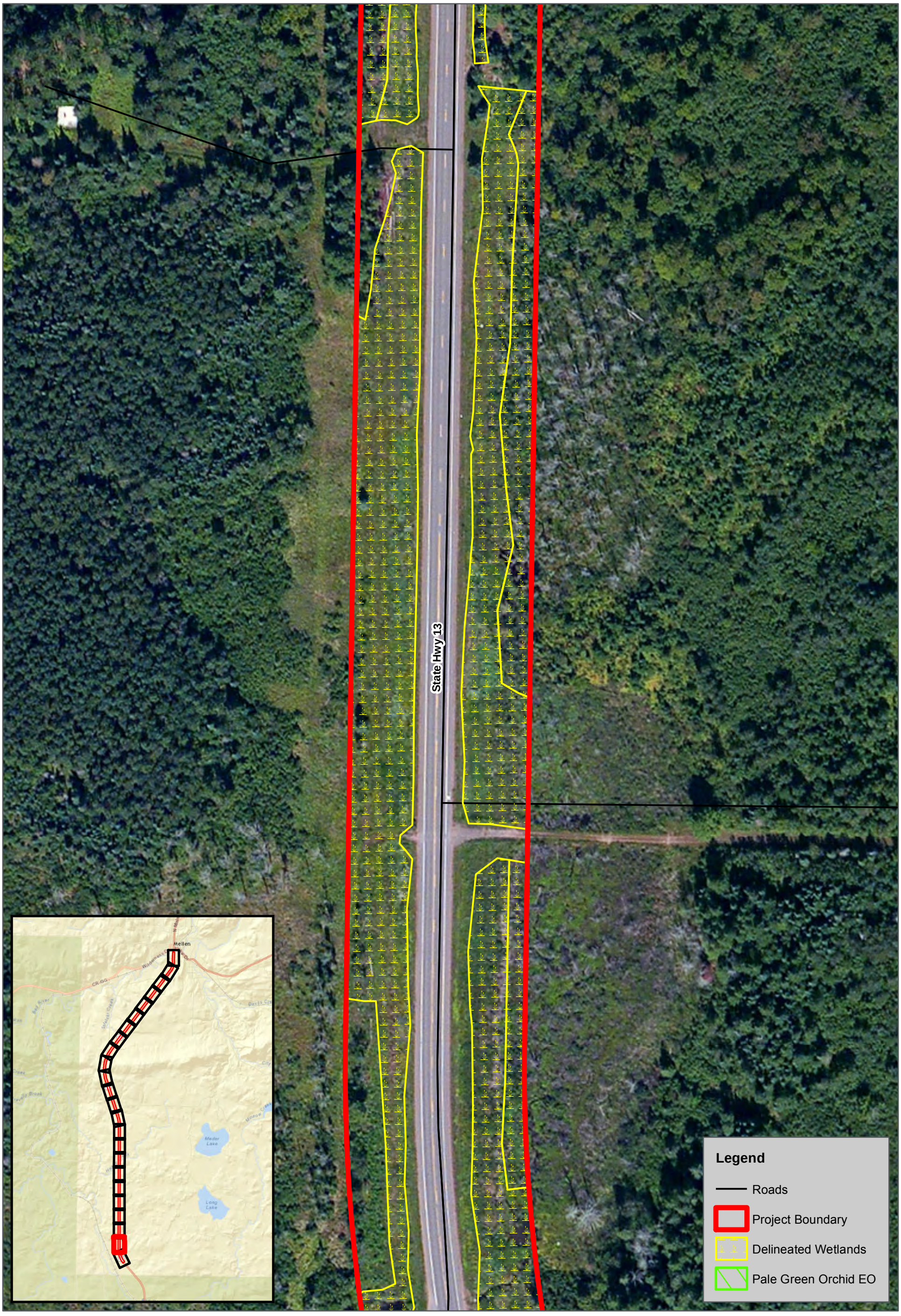
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

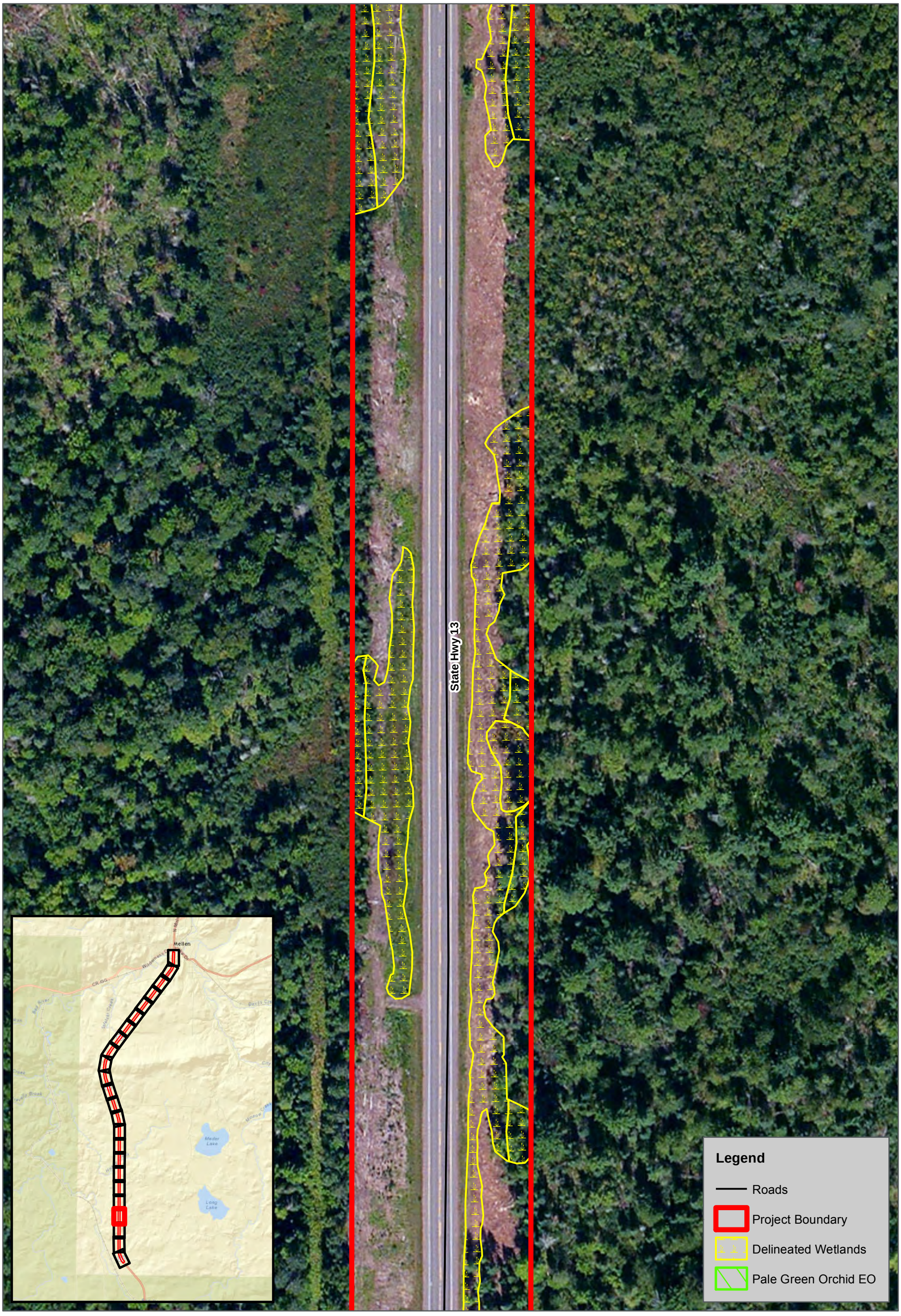
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

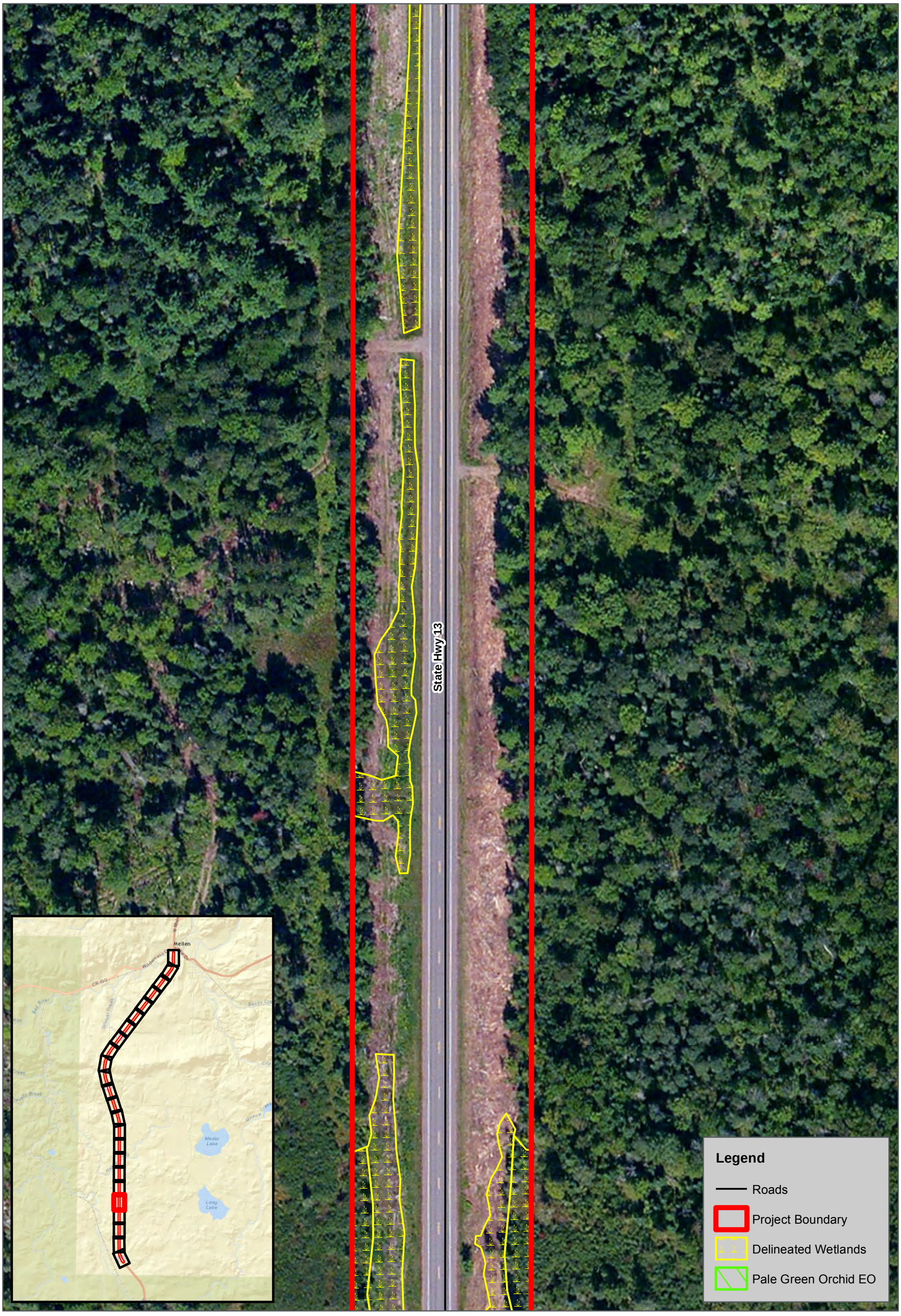
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

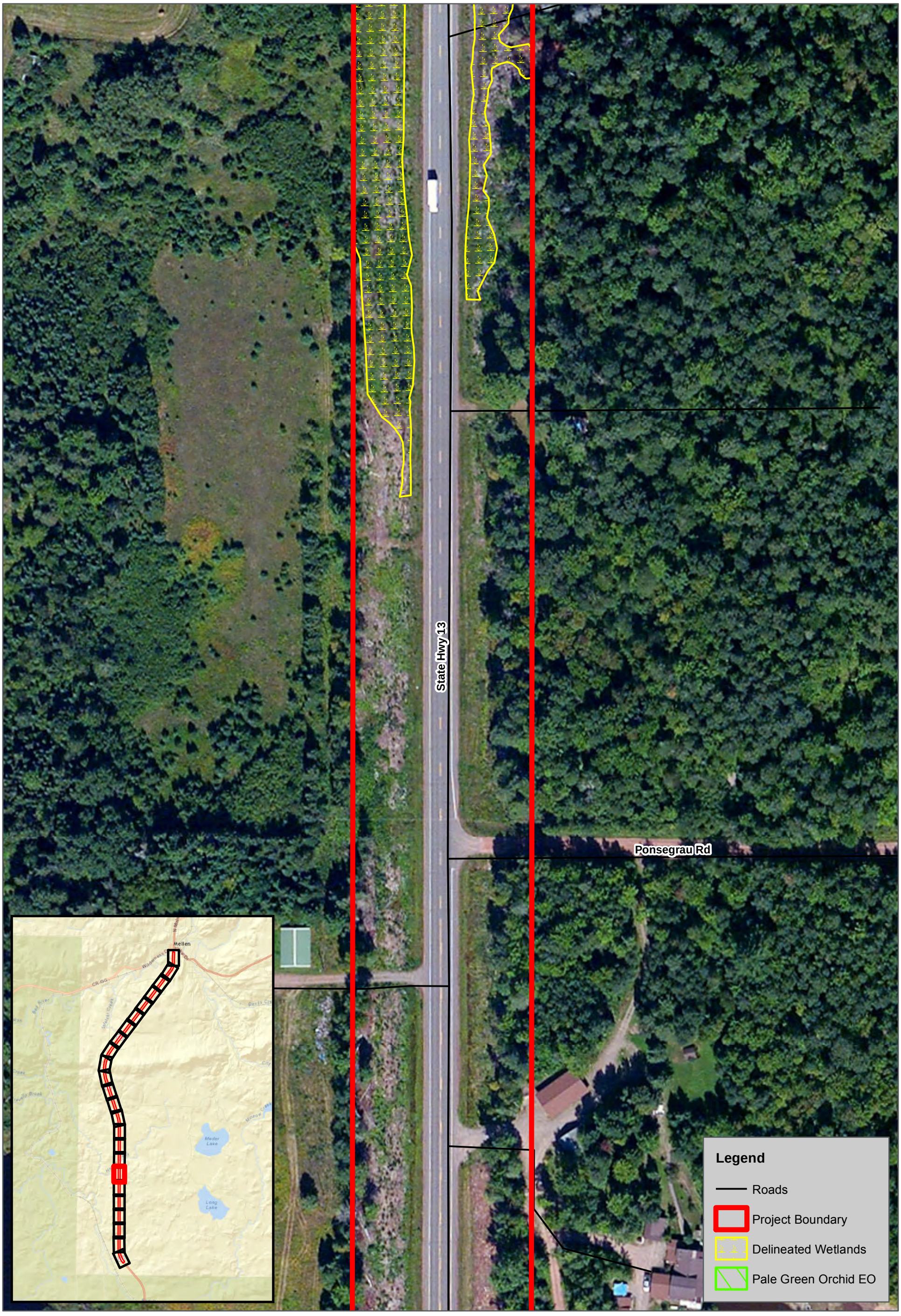
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

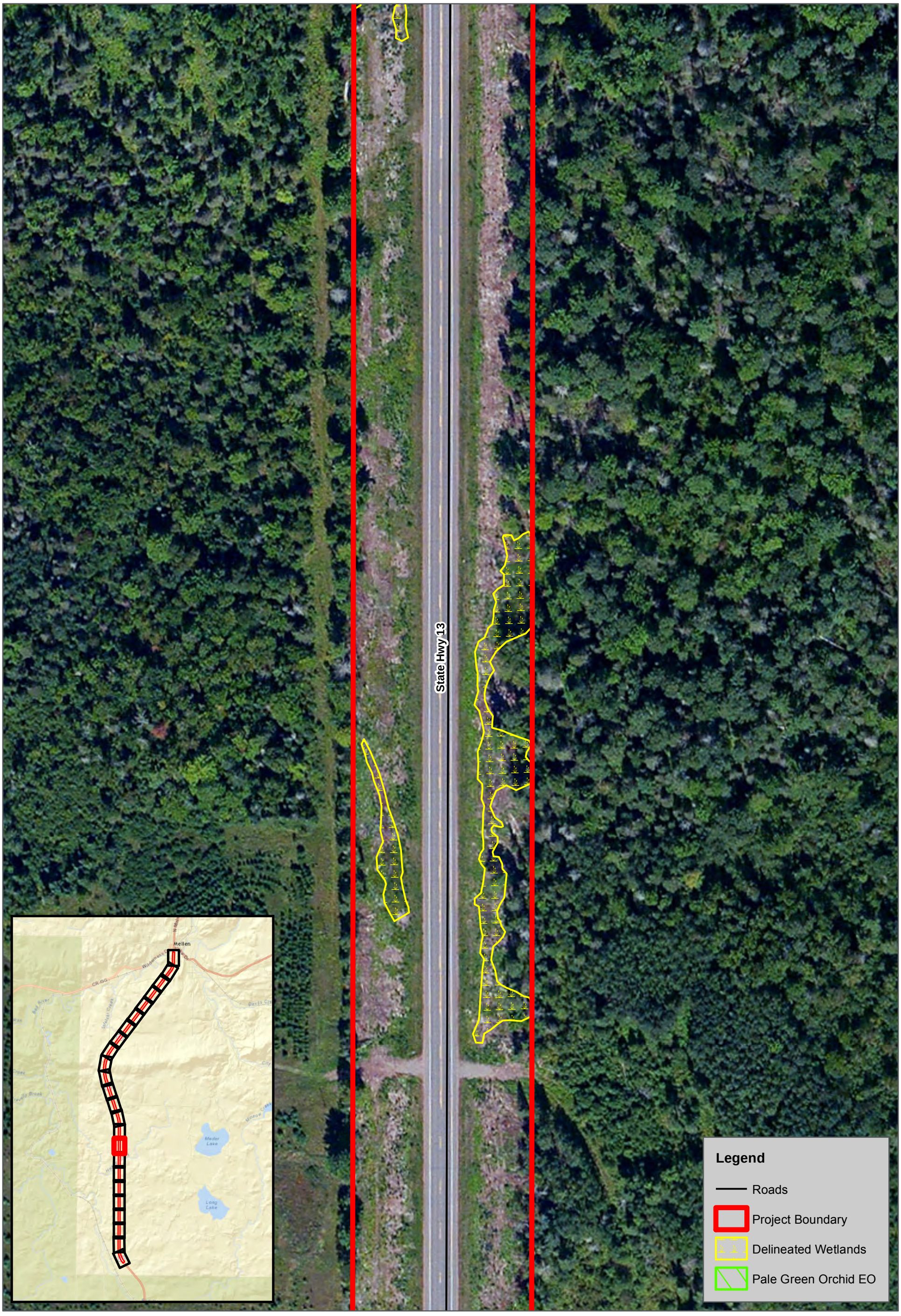
0 50 100 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

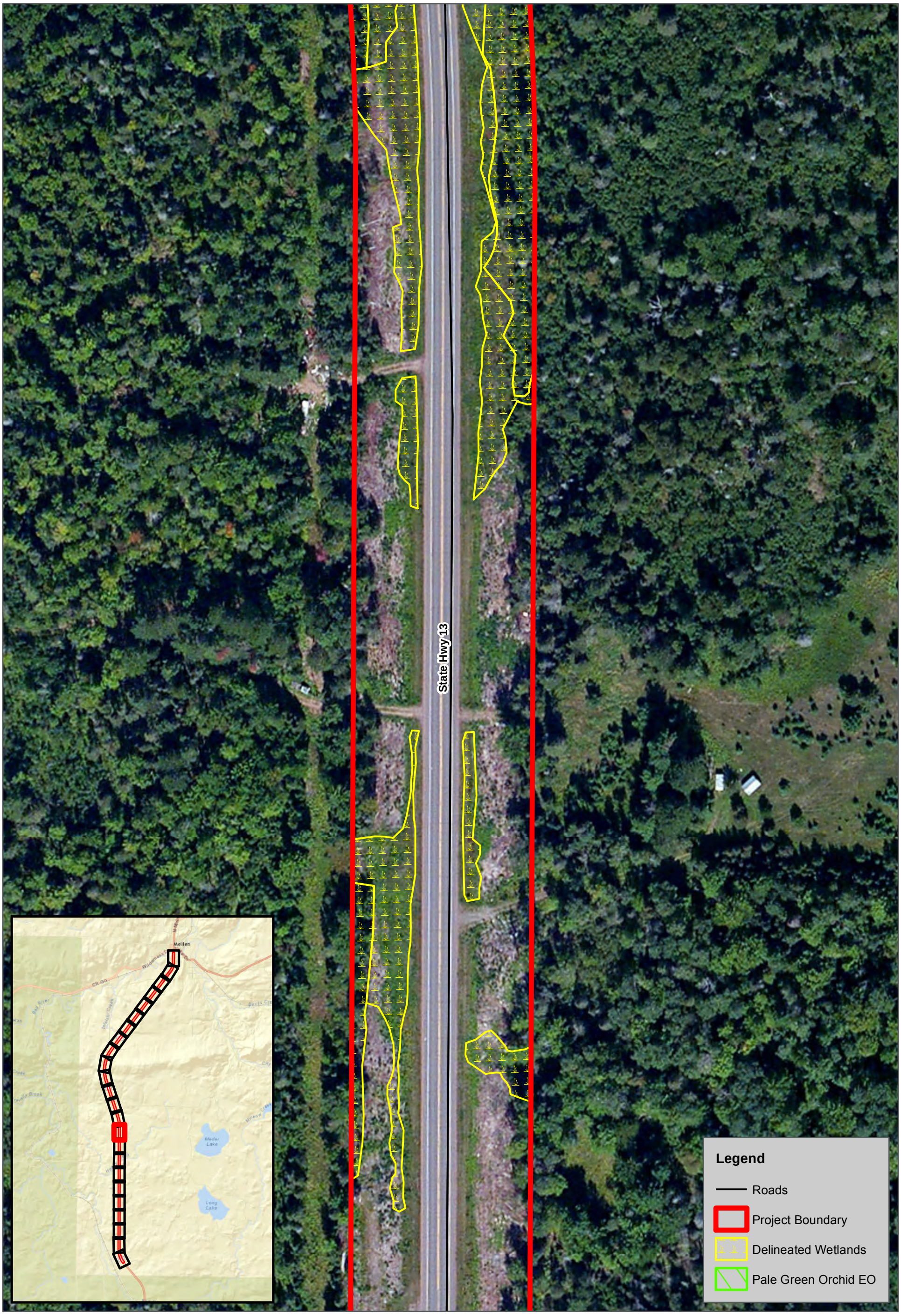
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

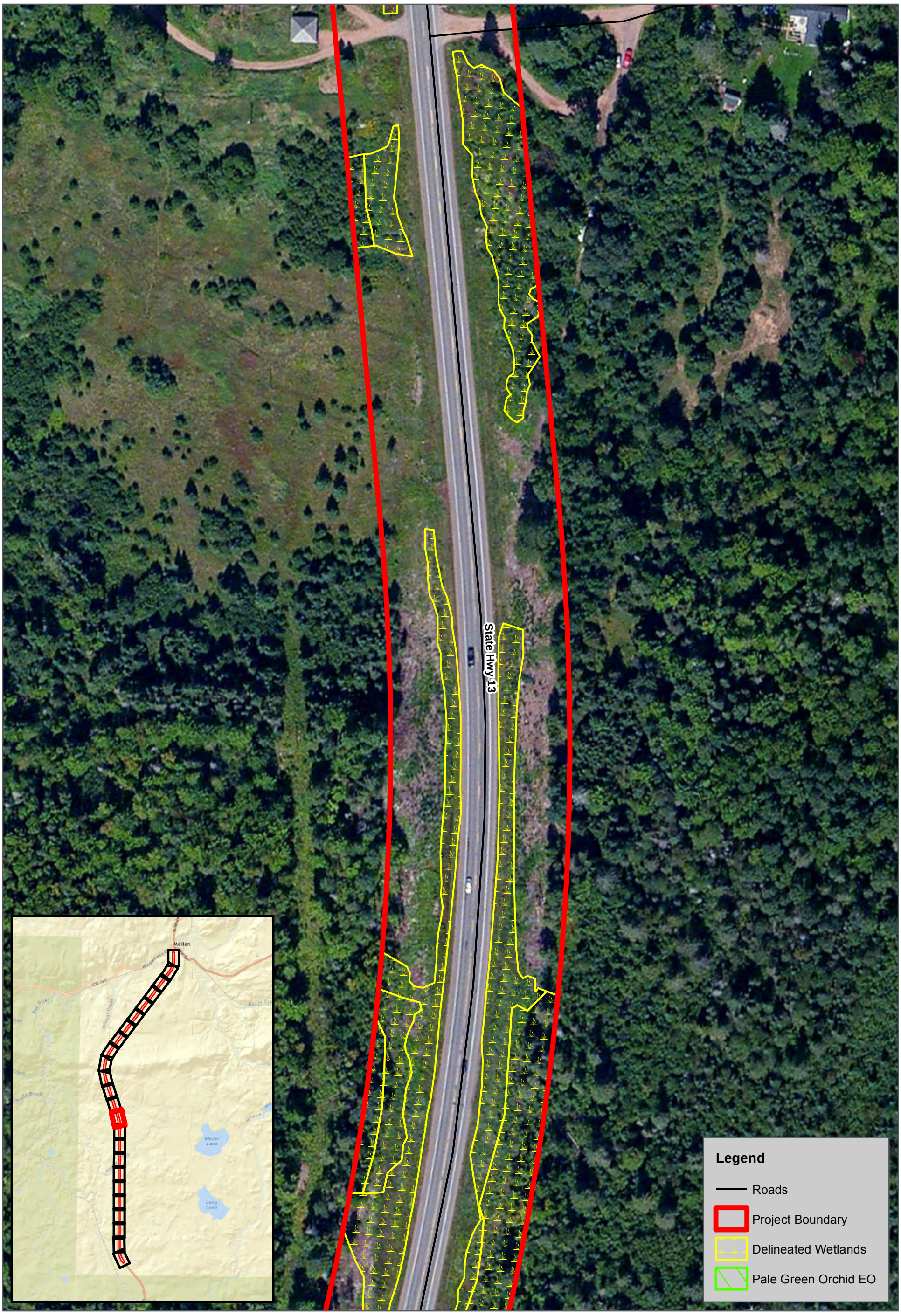
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W
E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

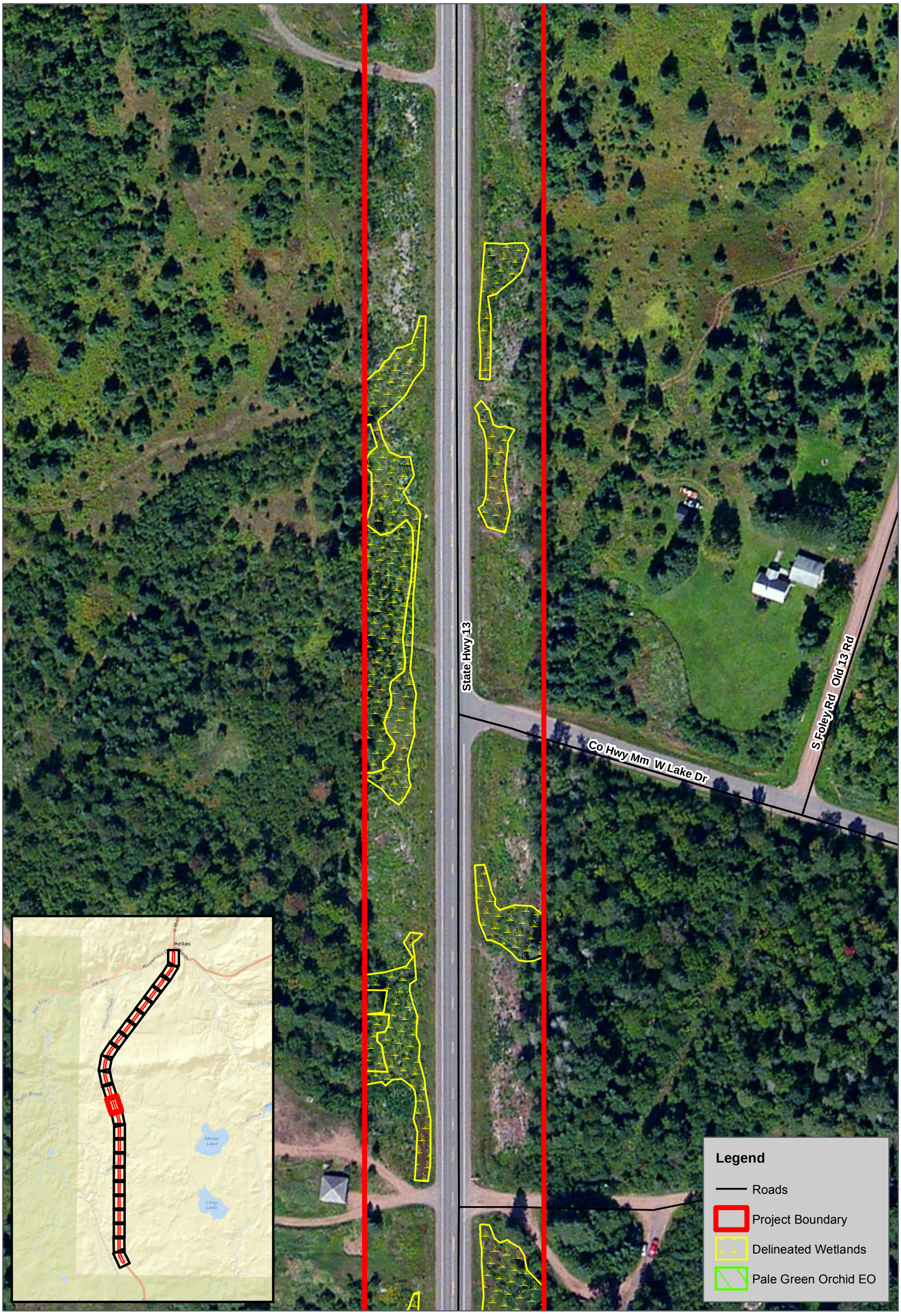
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W
E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

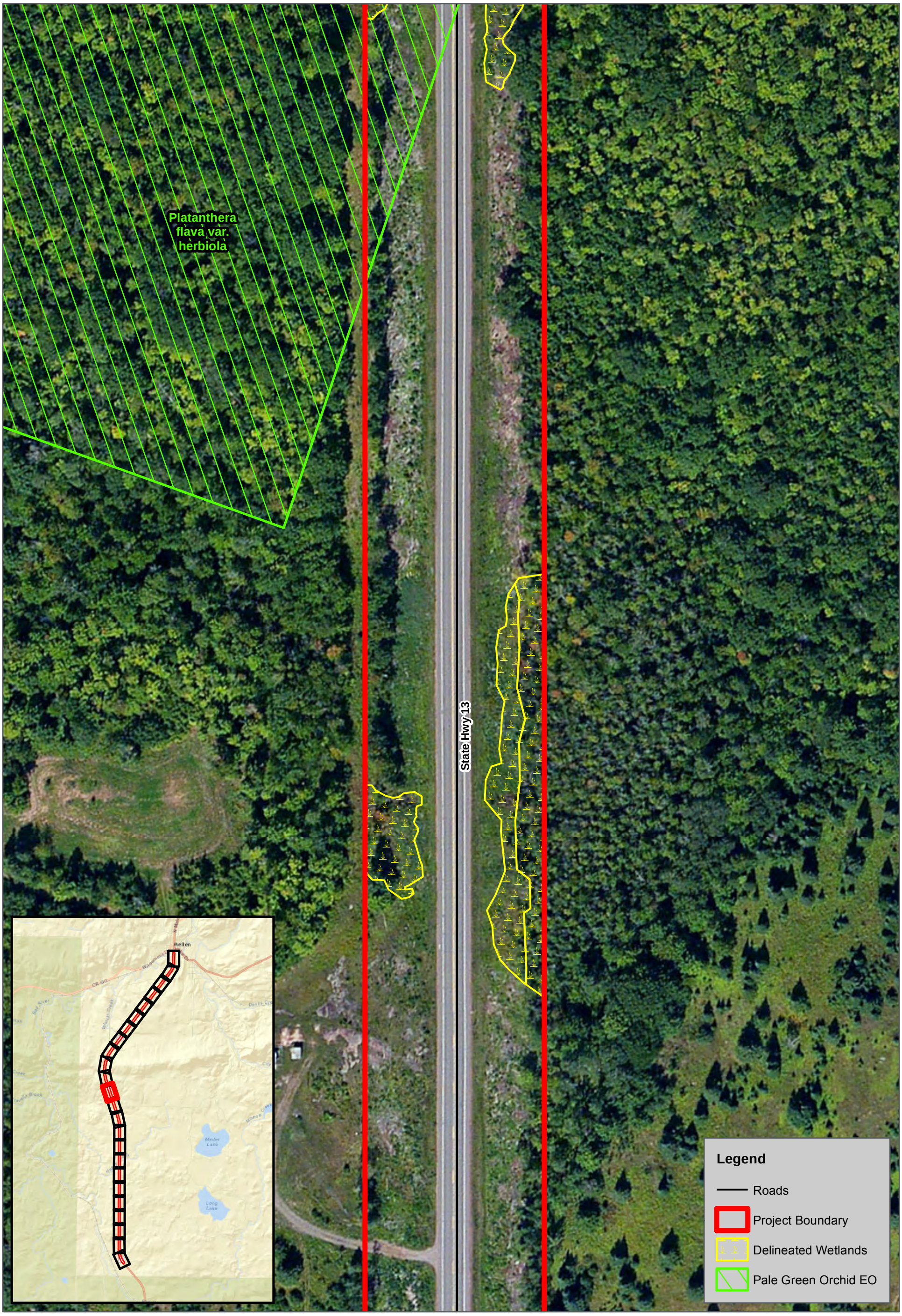
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N W E S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

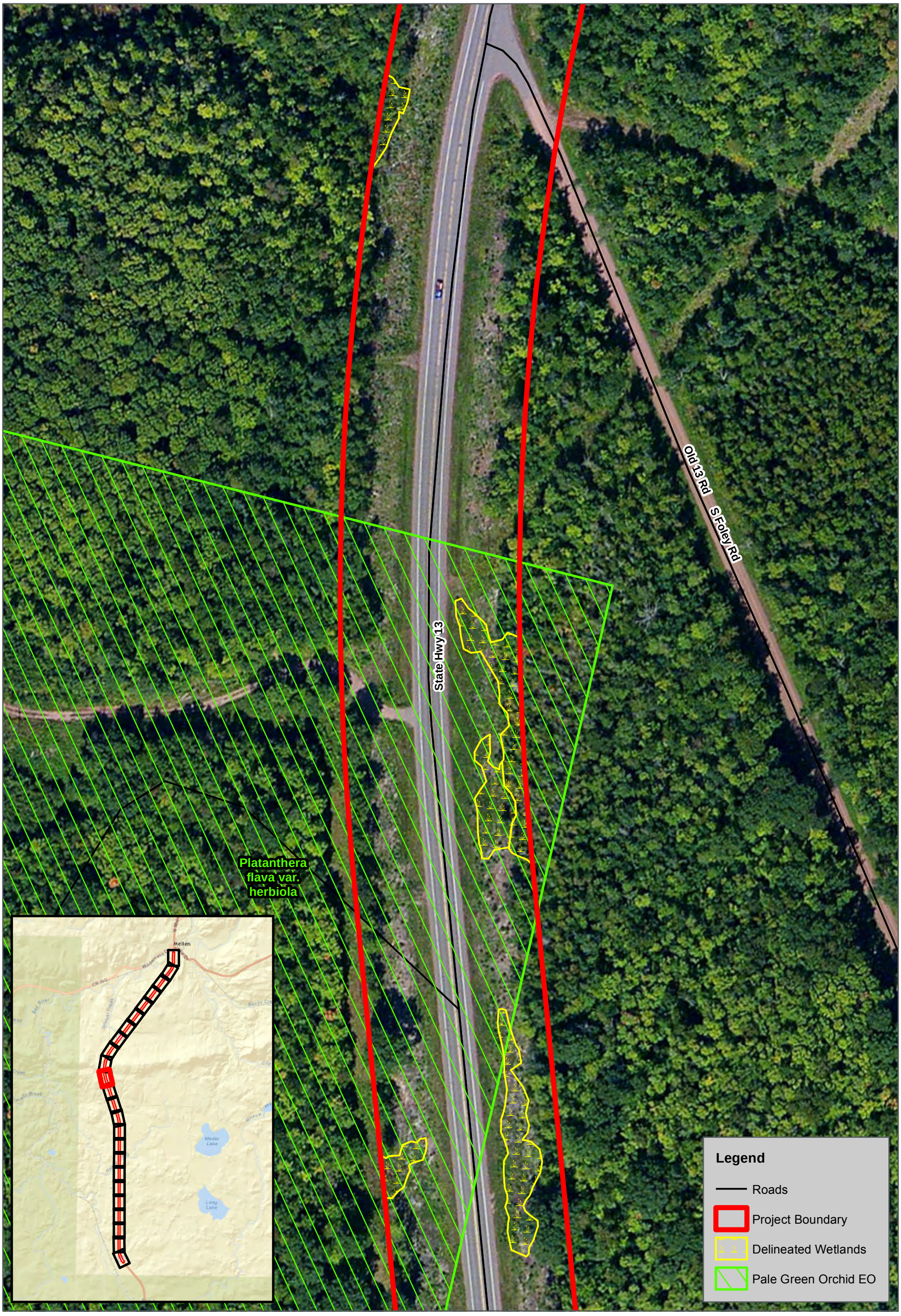
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

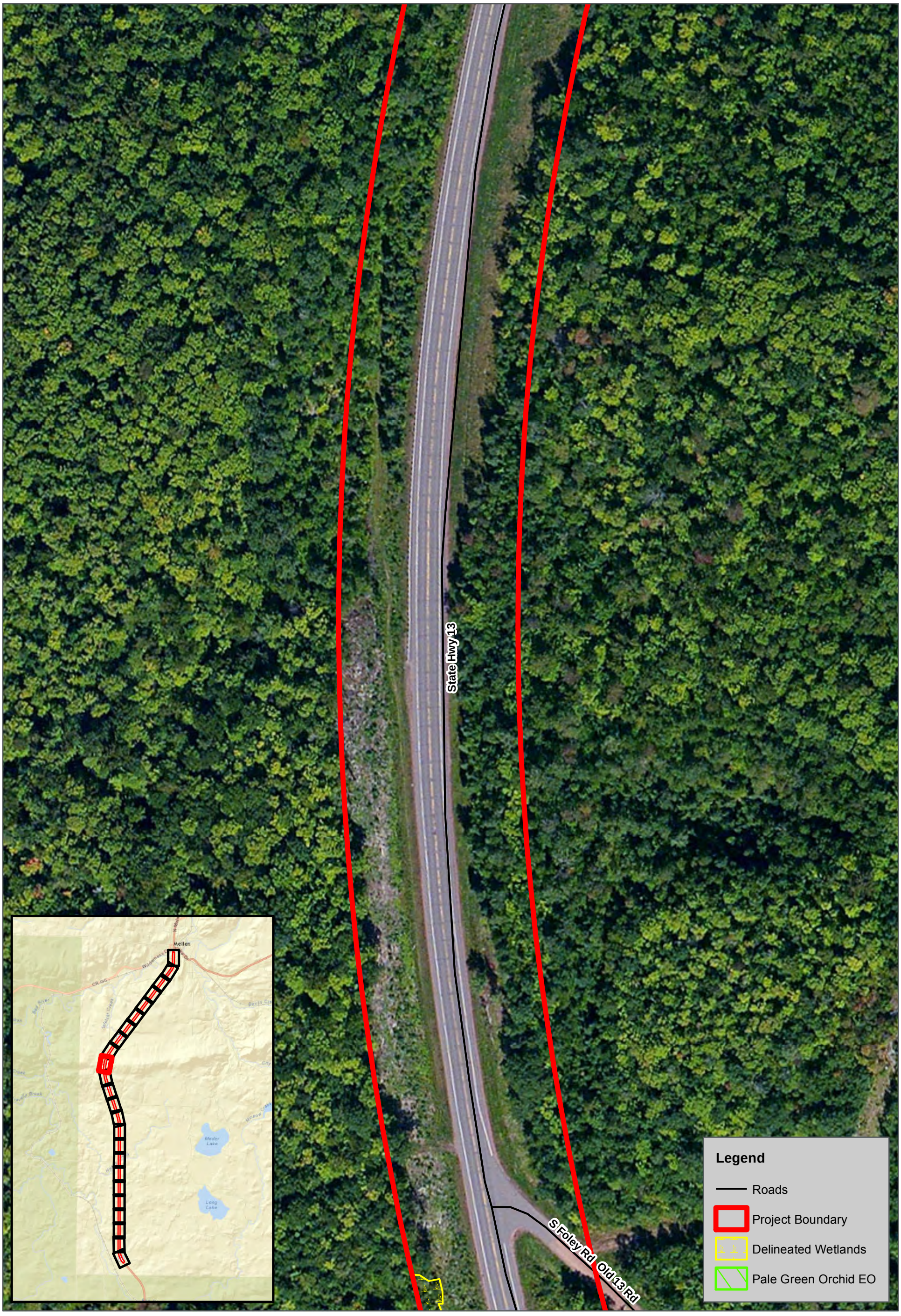
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

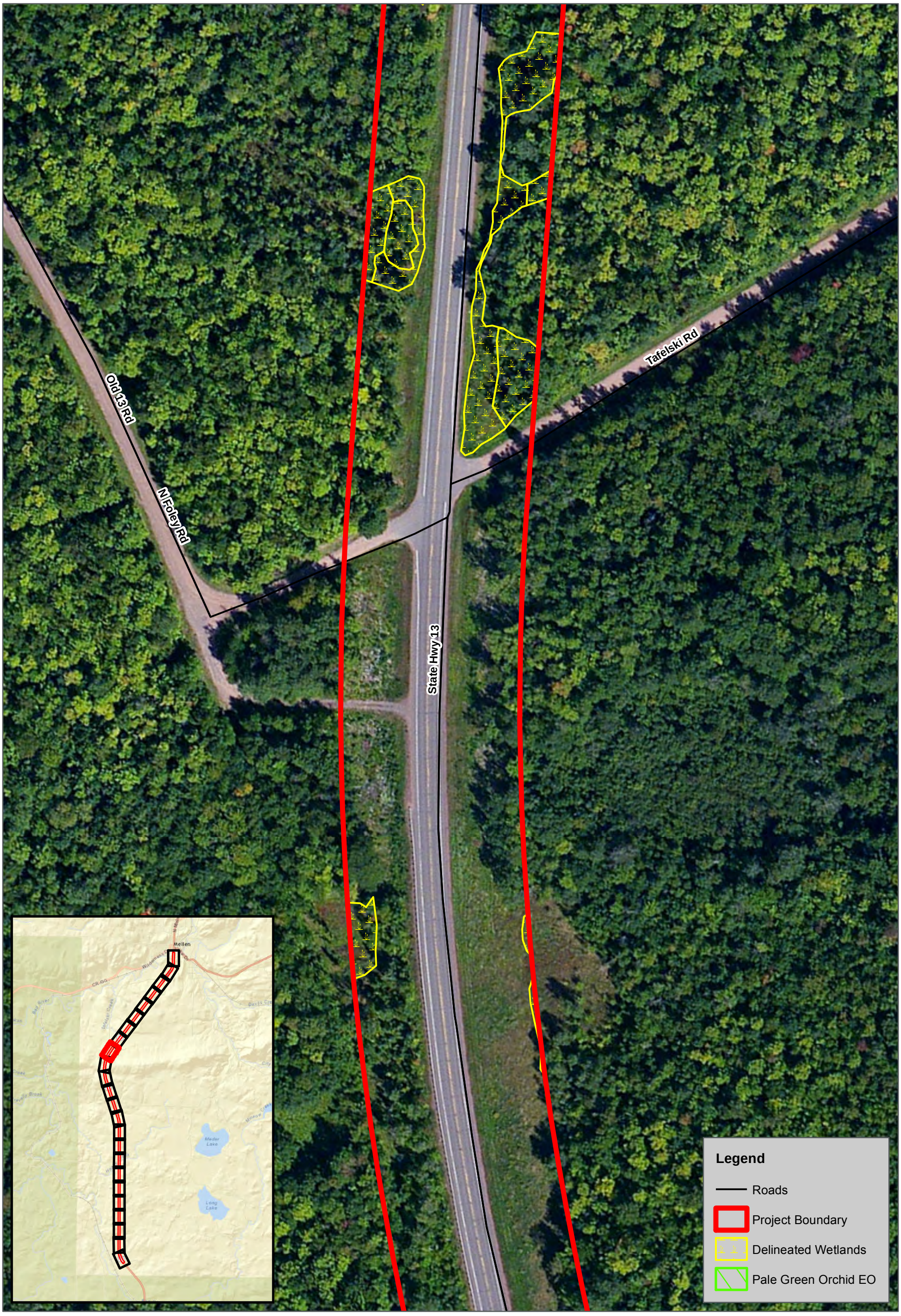
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

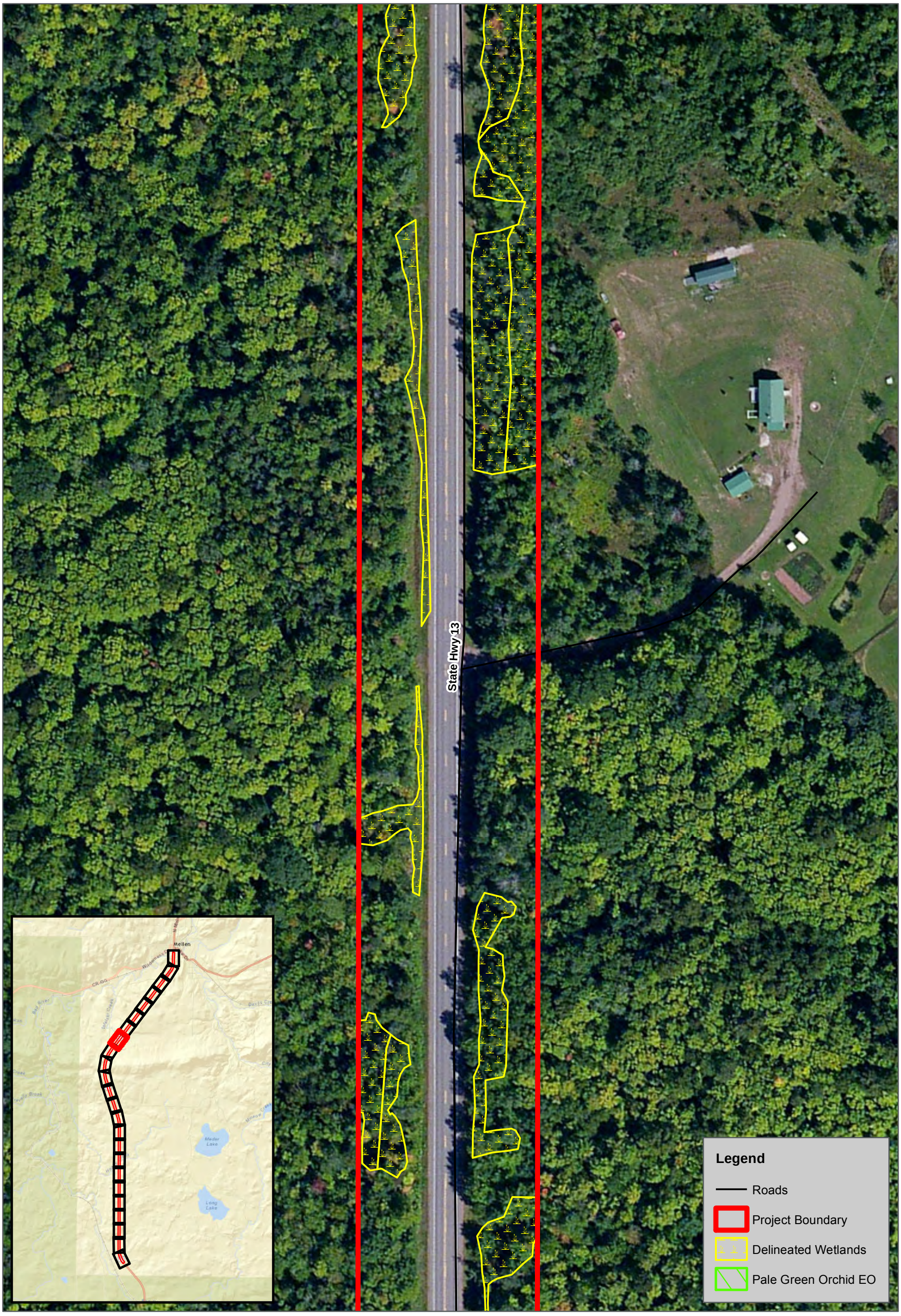
STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N E S W

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

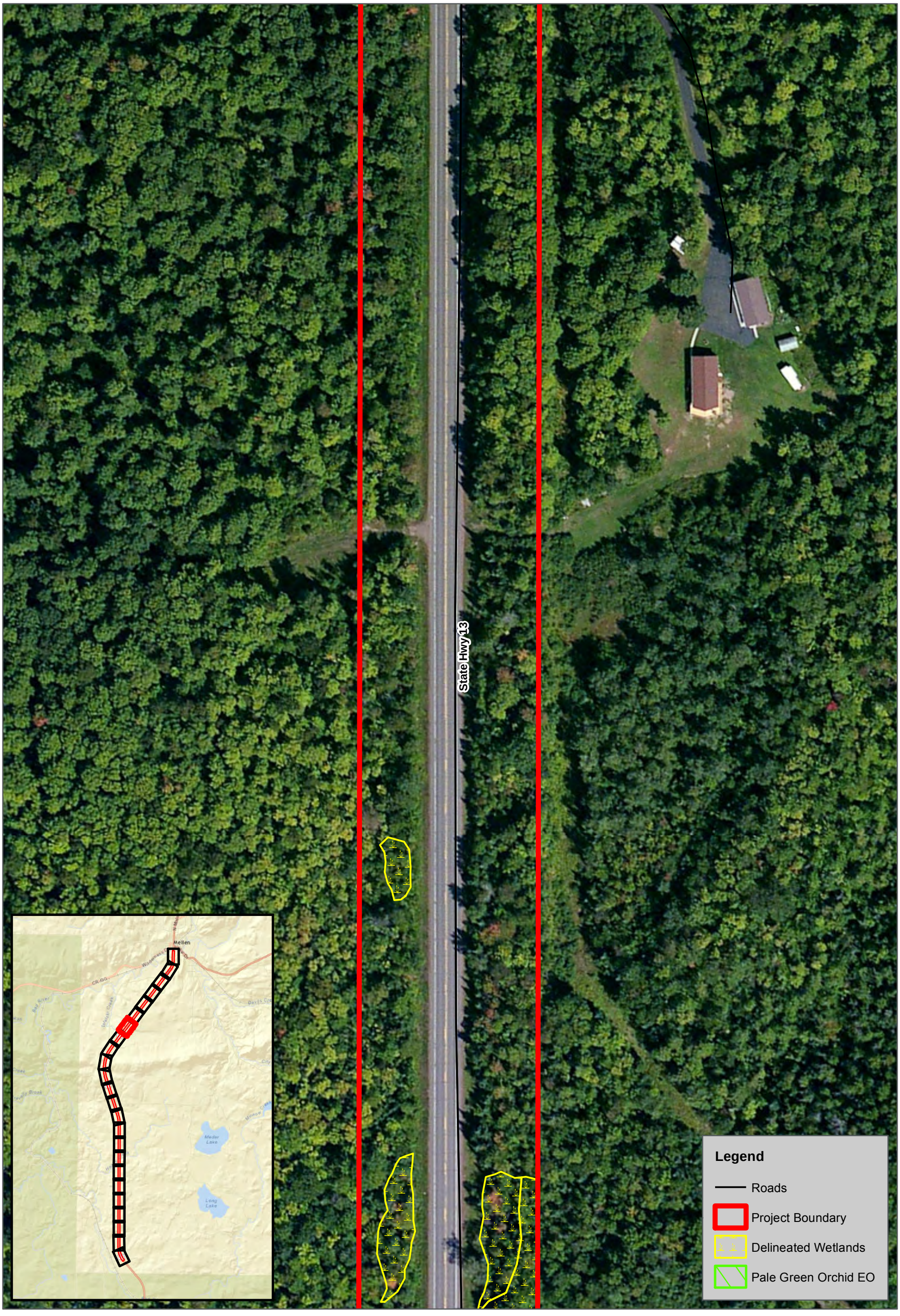
0 50 100 Feet

Project No. J157001M17

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N E S W

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M17

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

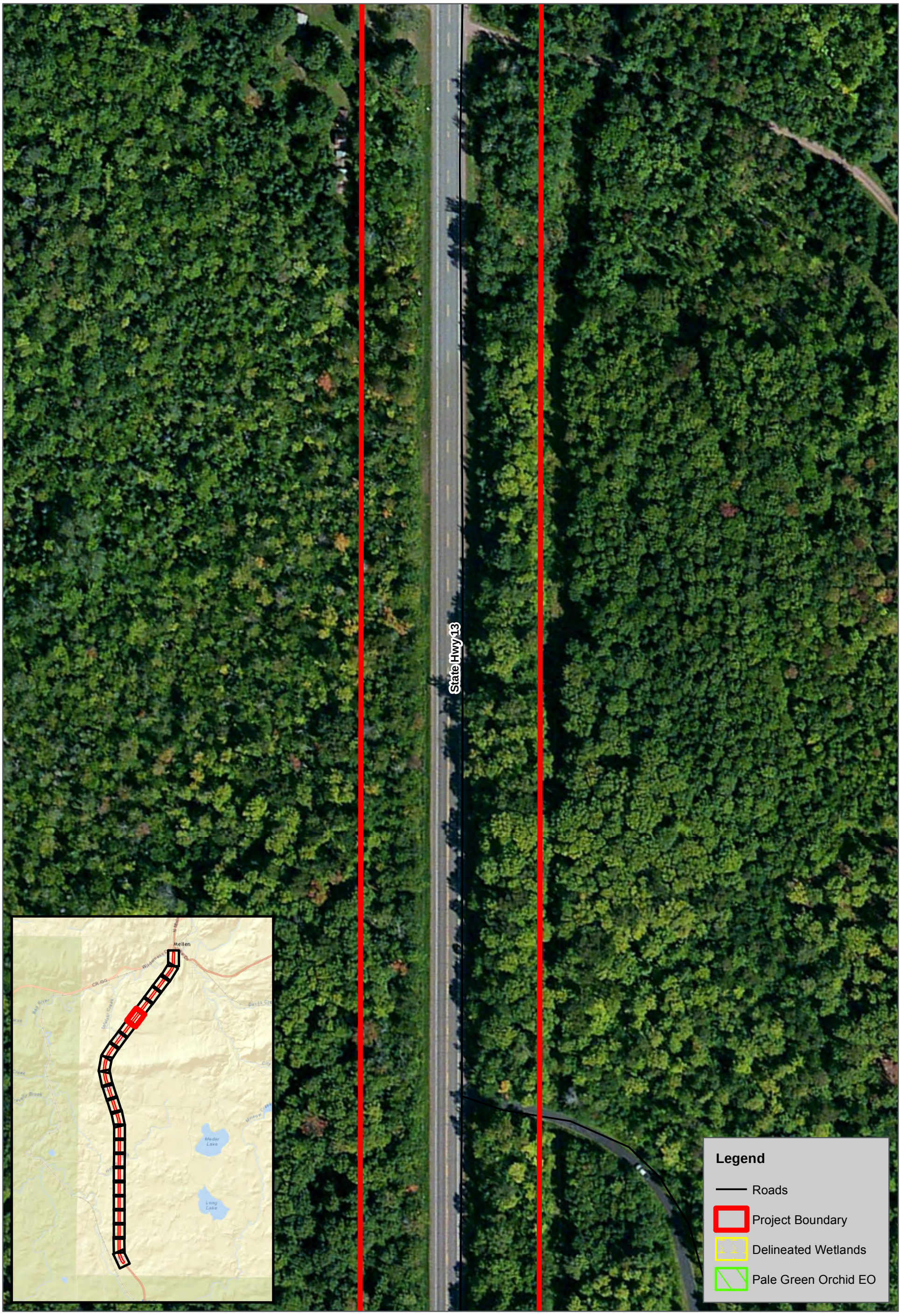
0 50 100 Feet

Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N E S W

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Project No. J157001M17

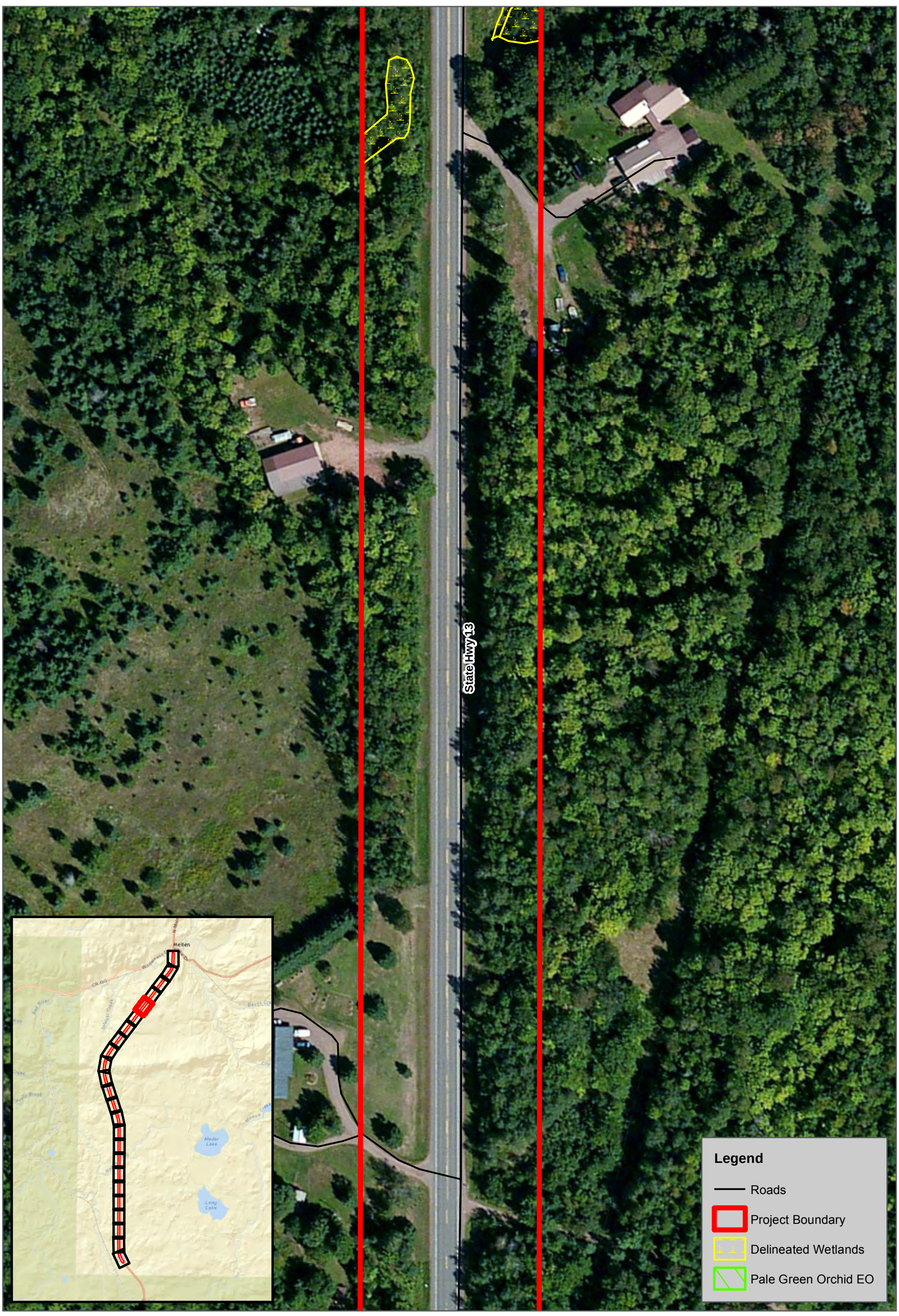
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd

GIS Analyst: Alex Cohen

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC



N E S W

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M17

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

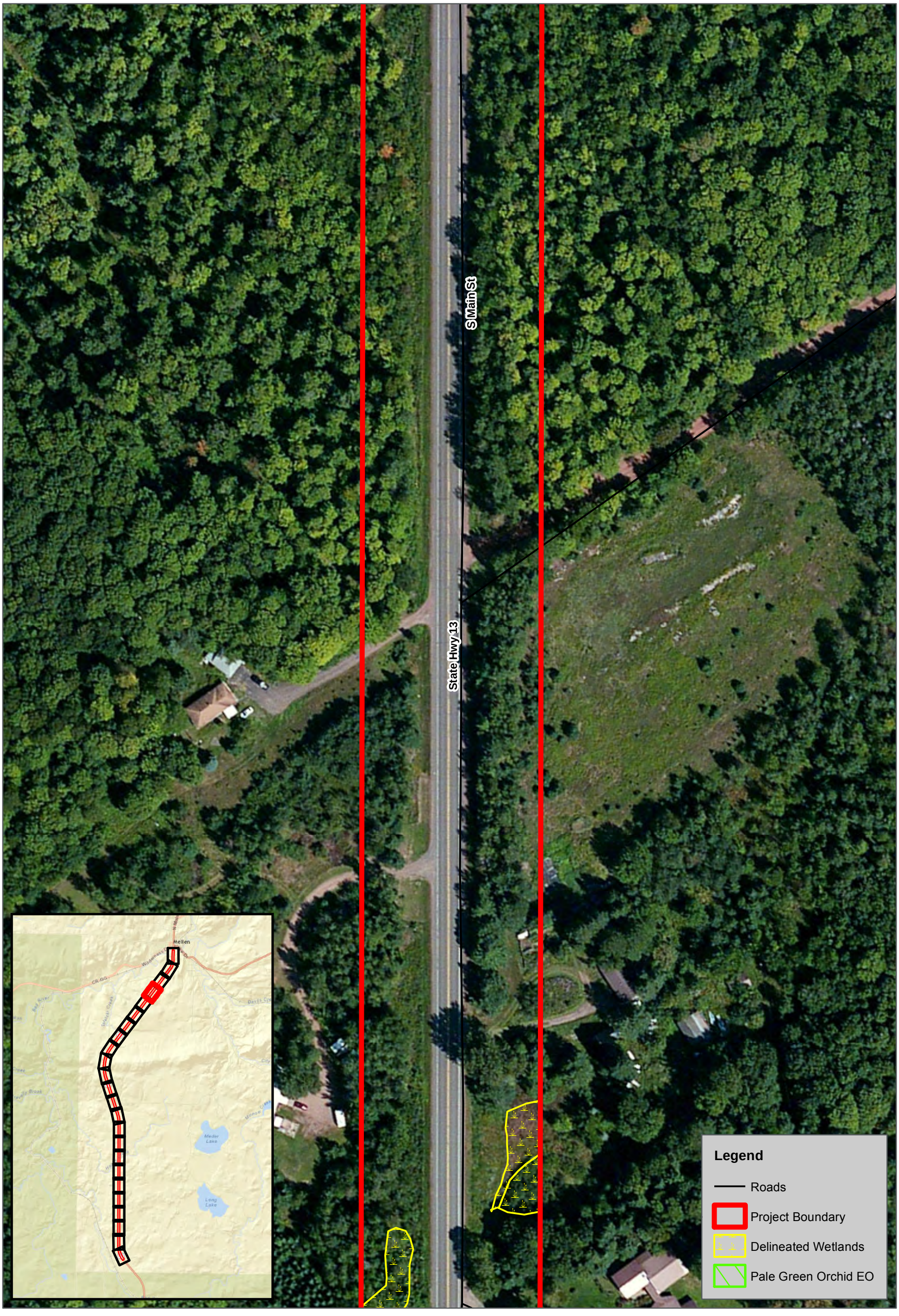
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N E W S

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

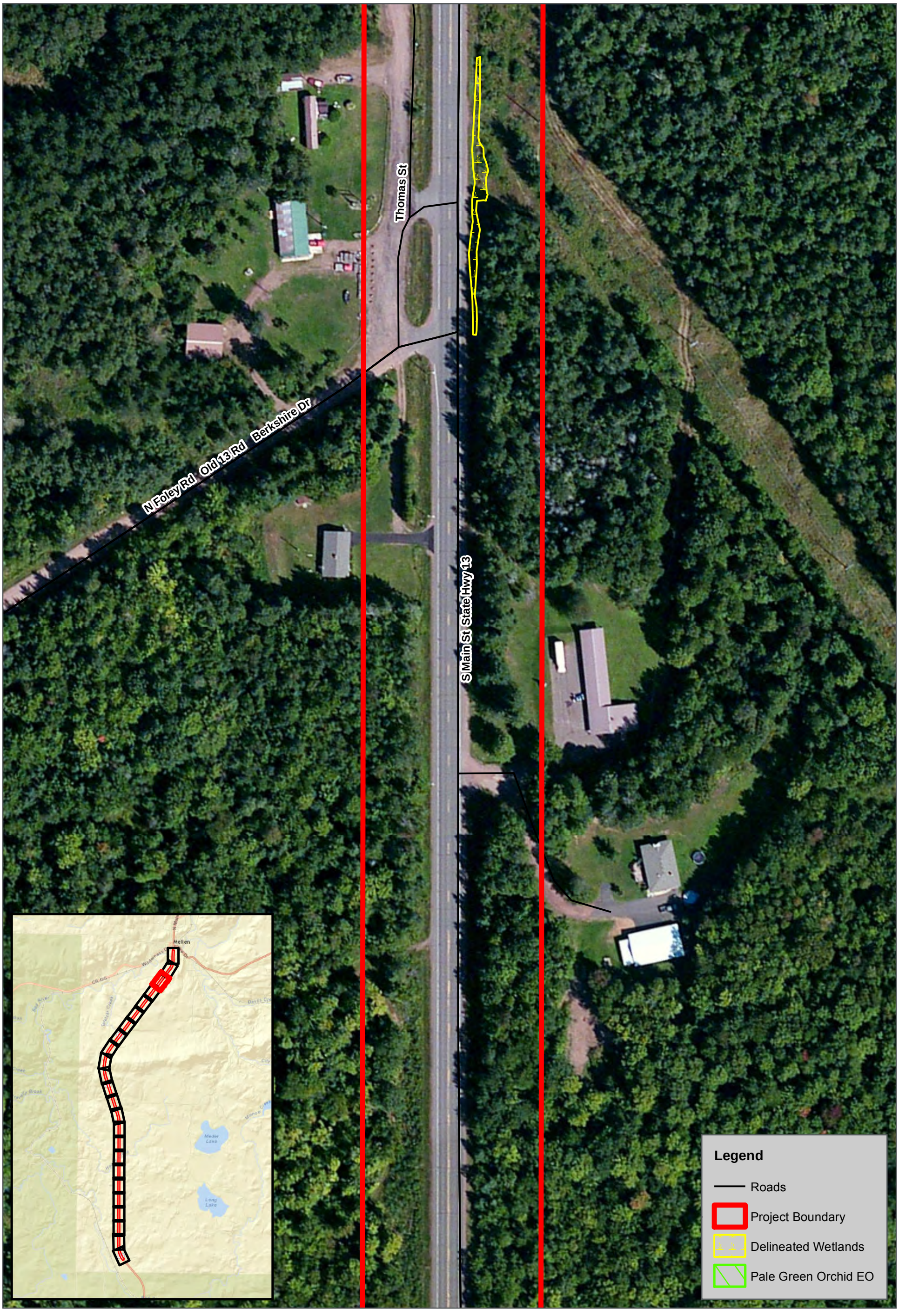
0 50 100 Feet

Project No. J157001M17

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

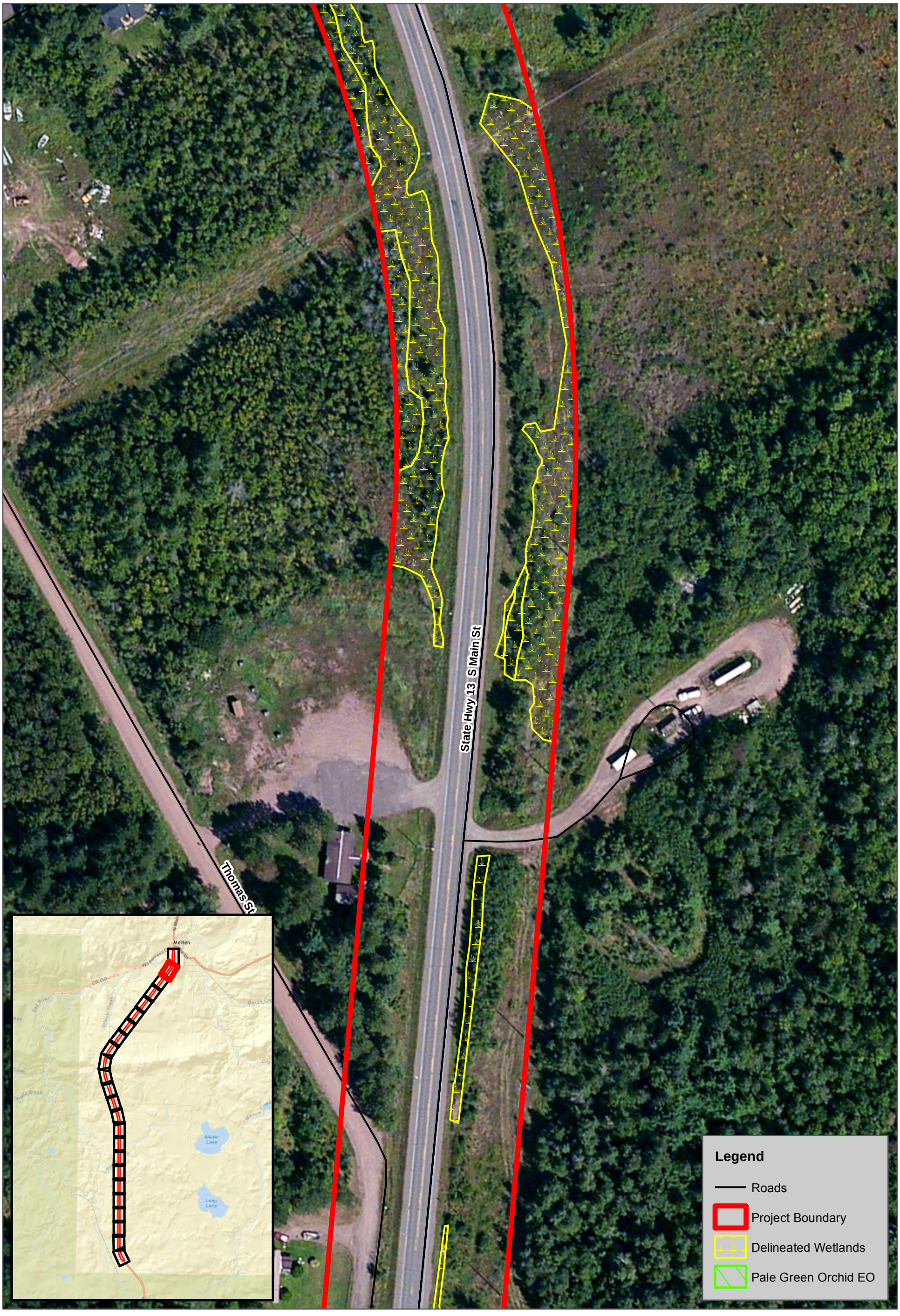
0 50 100 Feet

Project No. J157001M17

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N E S W

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Project No. J157001M17

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

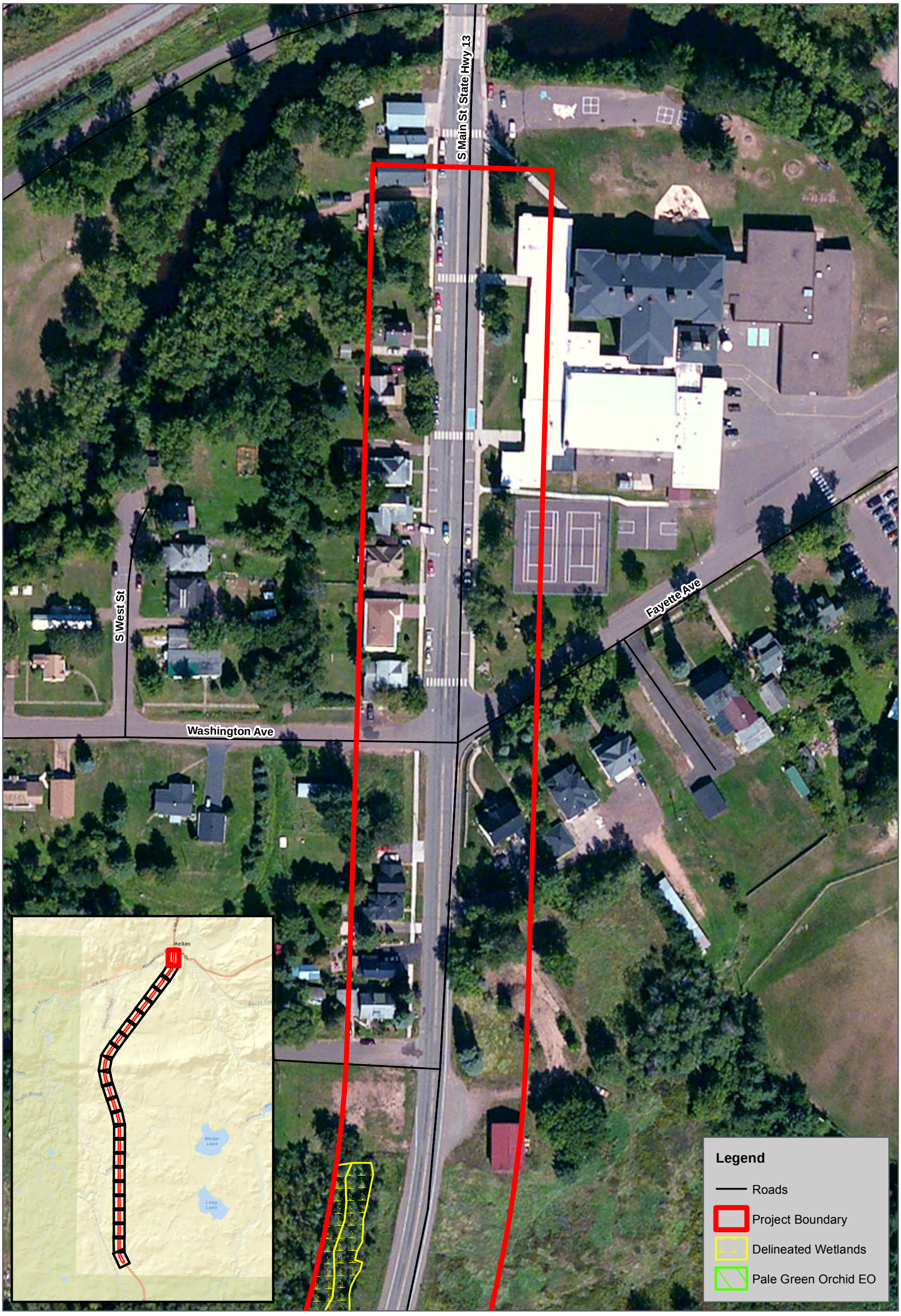
Cardno

6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd

Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen



N
W E
S

Project No. J157001M17

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Survey Location - CONFIDENTIAL

STH 13: Cayuga Rd - Jefferson Ave
Wisconsin Department of Transportation
Ashland County, Wisconsin

0 50 100 Feet

Cardno
6140 Cottonwood Dr., Suite A, Fitchburg, WI 53719 USA
Phone (+1) 608-661-2955 Fax (+1) 608-661-2961
www.cardno.com

Date Created: 8/30/2016 Date Revised: 8/30/2016 File Path: R:\Projects\15\157\157001M_WisDOT_2016_2018\17_STH 13 Cayuga Rd to Jefferson Ave\GIS\MXD\Rare Plant Survey\Orchid Survey.mxd
Data Sources: Basemaps - ESRI, Hydrology - WDNR, Soils - SSURGO, Topography - USDA-NRCS-NCGC

GIS Analyst: Alex Cohen

PROJECT ID: 1610-08-74
WITH:

COUNTY: ASHLAND

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS =



N

DESIGN DESIGNATION

A.A.D.T.	2012	=	1300
A.A.D.T.	2040	=	1600
D.H.V.		=	196
D.D.		=	60/40
T.		=	23.8
DESIGN SPEED		=	55 MPH
ESALS		=	1,200,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

PARK FALLS – MELLEN

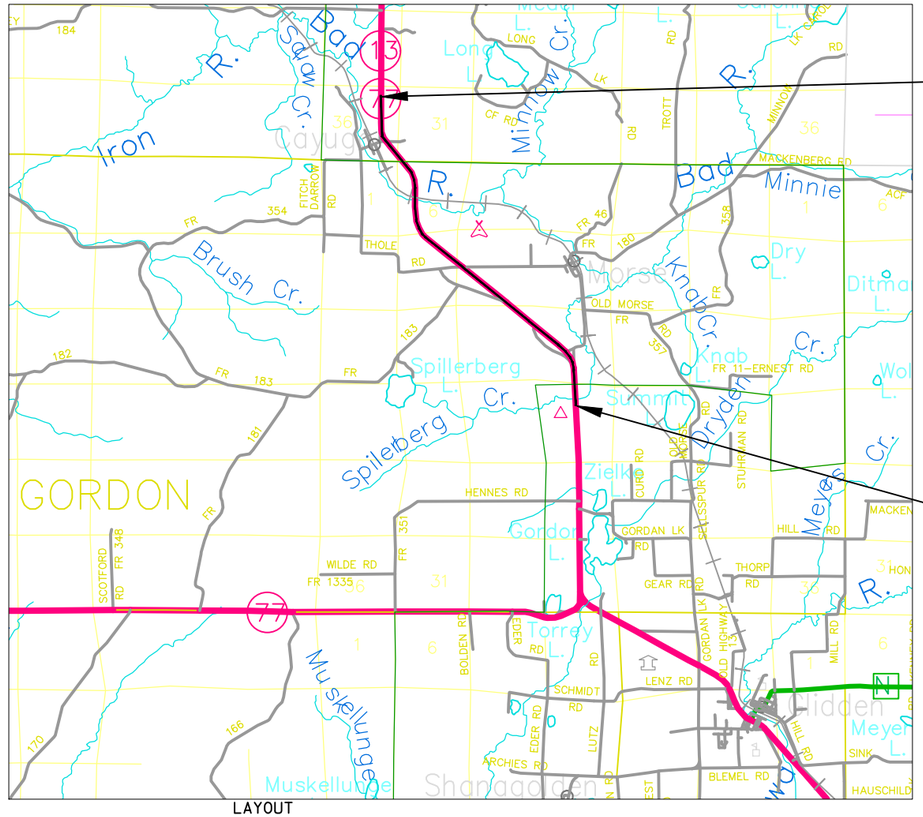
MORSE RD – CAYUGA RD

STH 13

ASHLAND COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1610-08-74		

STATE PROJECT NUMBER
1610-08-74



LAYOUT
SCALE 0 2 MILES

TOTAL NET LENGTH OF CENTERLINE = 4.45

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, COUNTY COUNTY, NAD83 (YEAR), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

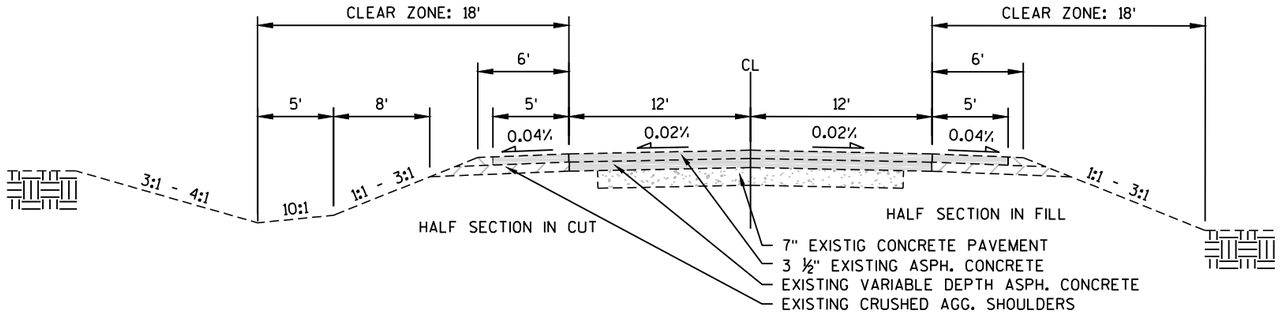
PREPARED BY

Surveyor	DAN OJIBWAY
Designer	TRAVIS JENSEN
Project Manager	PHILLIP KEPPERS
Regional Examiner	DAN OJIBWAY
Regional Supervisor	DAVID OSTROWSKI

APPROVED FOR THE DEPARTMENT

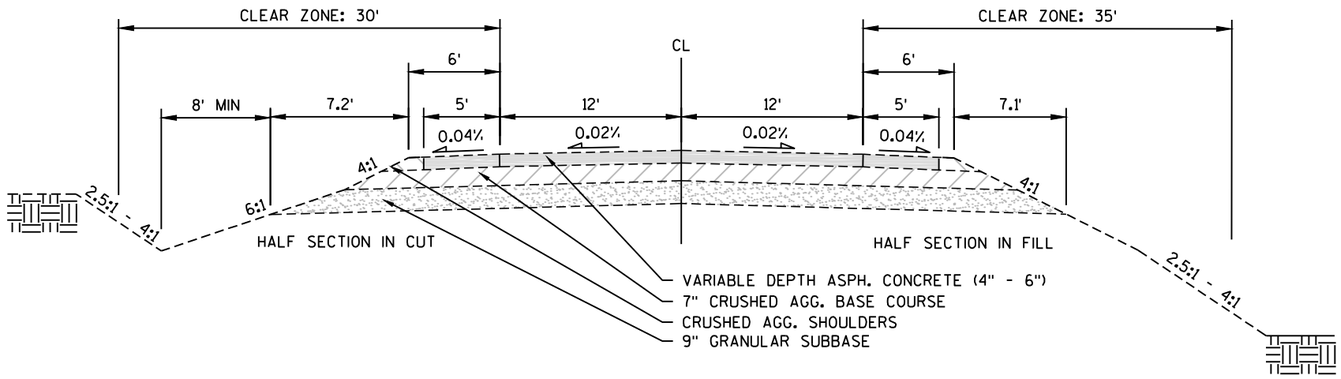
DATE:_____ _____
(Signature)

E



TYPICAL EXISTING SECTION STH 13

STA 391+00 TO STA 565+55.76
STA 604+44.55 TO STA 646+50

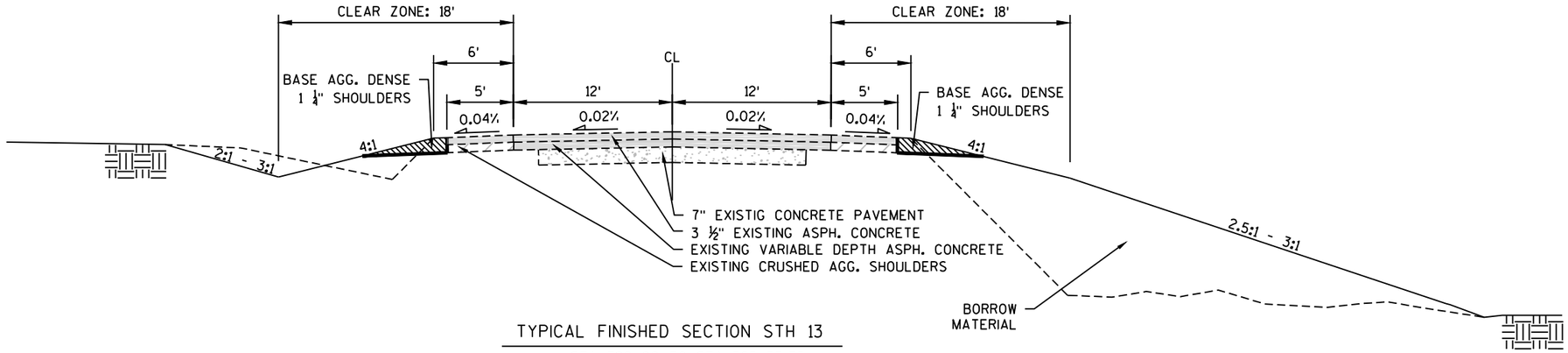


TYPICAL EXISTING SECTION STH 13

STA 565+55.76 TO STA 604+44.55

PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	TYPICAL SECTIONS	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_TYPS.DWG
1610-08-31 - TYPS-1
PLOT DATE : 11/20/2017 11:52 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

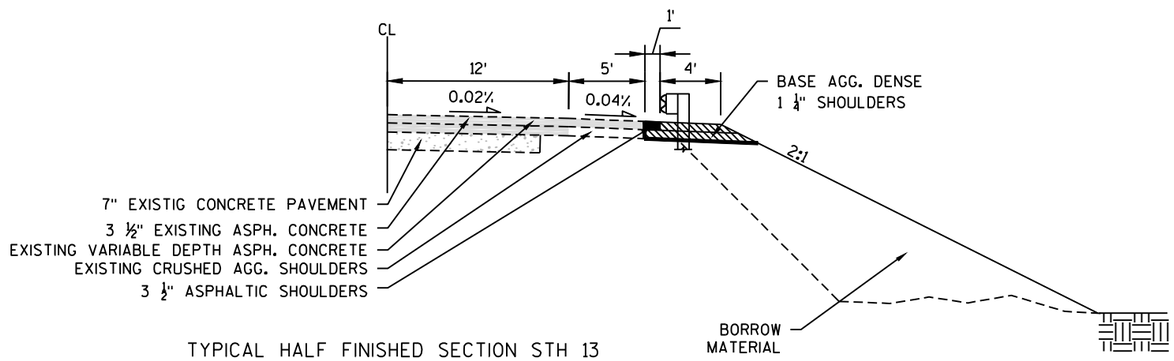


TYPICAL FINISHED SECTION STH 13

STA 390+00 TO STA 565+55.76
STA 604+44.55 TO STA 646+50

HALF SECTION IN CUT

HALF SECTION IN FILL

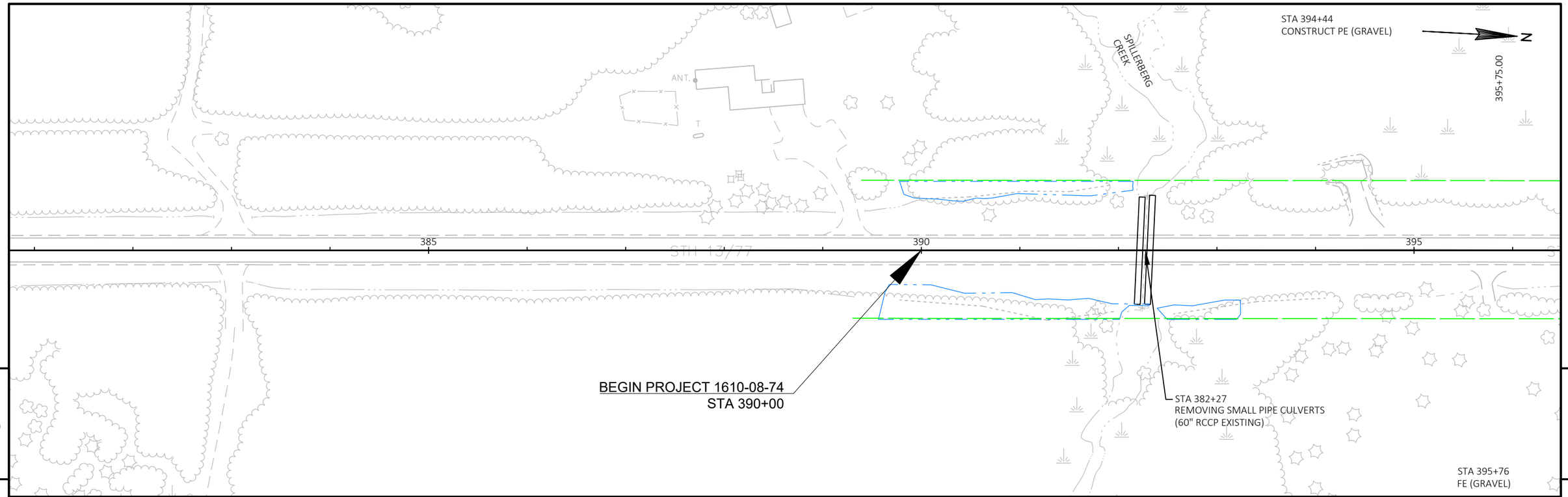


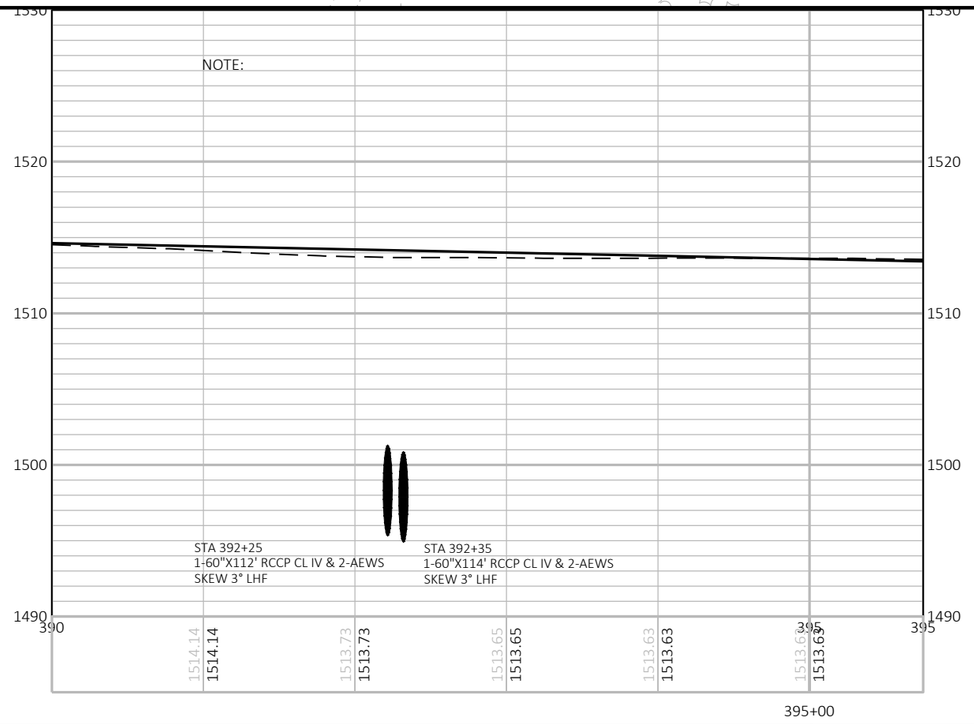
TYPICAL HALF FINISHED SECTION STH 13

STA 390+00 TO STA 565+55.76
STA 604+44.55 TO STA 646+50

PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	TYPICAL SECTIONS	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_TYPS.DWG
1610-08-31 - TYPS-2
PLOT DATE : 11/20/2017 11:52 AM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

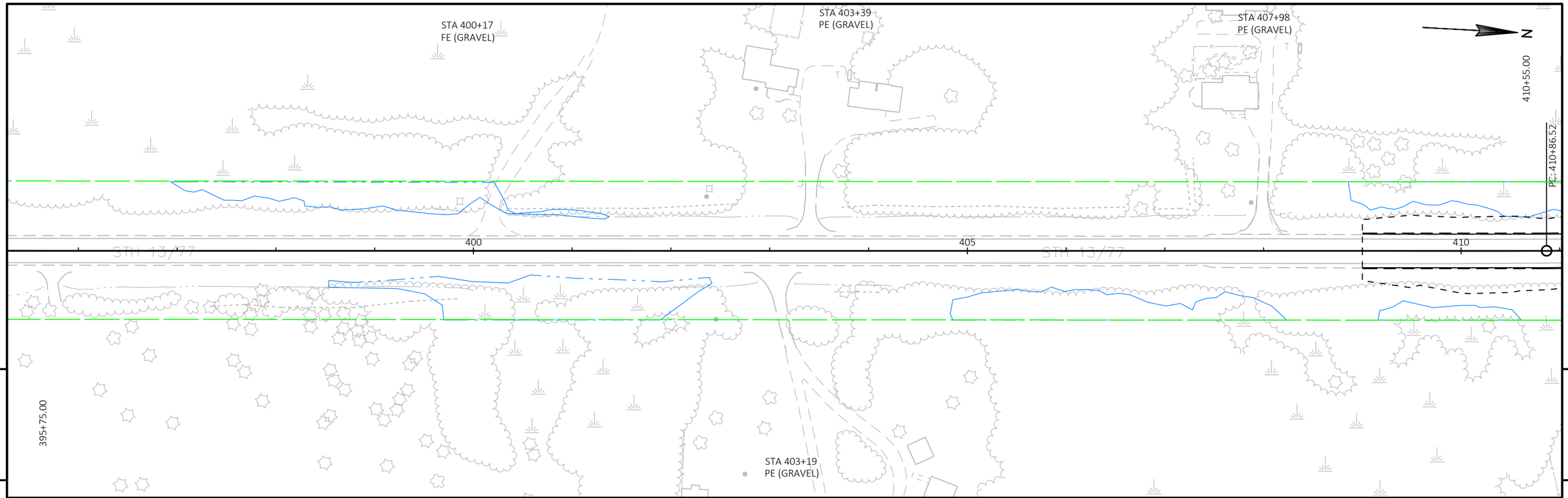


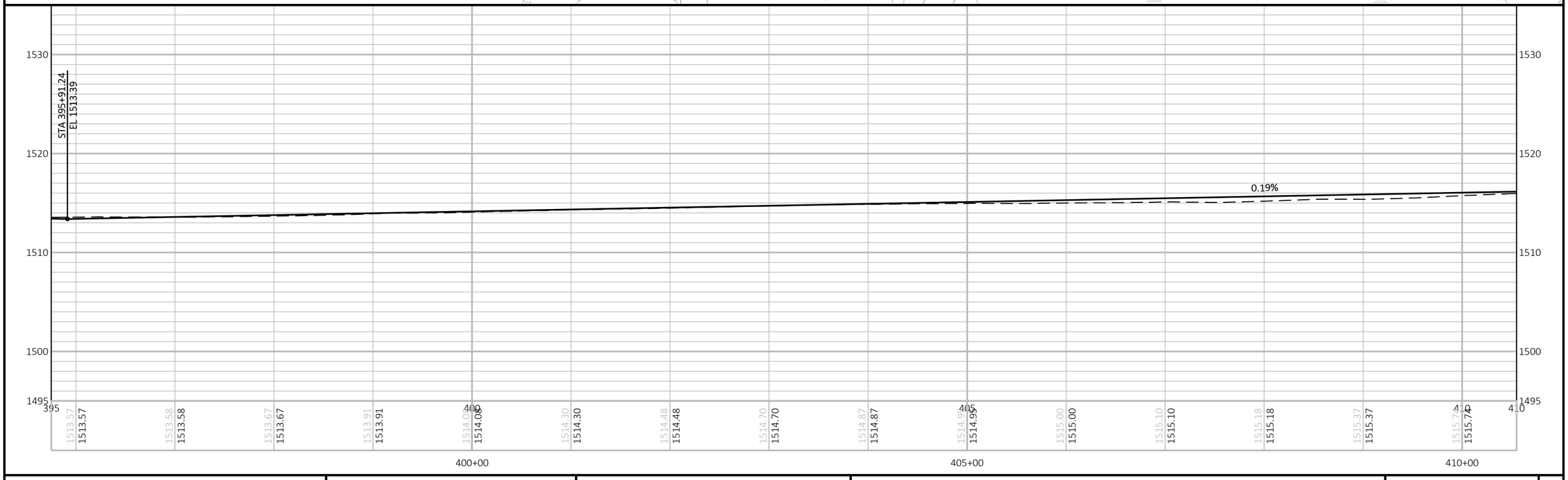


PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-1

PLOT DATE : 4/25/2018 3:10 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########





PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-2

PLOT DATE : 4/25/2018 3:11 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

SCHOCH RD (PAVED)
STA 415+60

STA 423+53
PE (GRAVEL)

PC: 410+86.52

410

STH 13

415

SCHOCH RD

420

425

STA 411+53
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

MORSE CUT OFF ROAD (PAVED)
STA 415+50

STA 420+11
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

PI STA = 421+13.09
Y = 181628.222
X = 565972.920
DELTA = 48°15'28"
D = 2°30'00"
T = 1026.57'
L = 1930.31'
R = 2291.83'
PC STA = 410+86.52
PT STA = 430+16.83

VPC STA 420+10.67
VPC EL 1517.96

VPI STA 424+03.90
VPI EL 1518.71

STA 411+53
1-30"X89' RCCP CL IV & 2-AEWS
SKEW 3° RHF

STA 420+11
1-24"X77' RCCP CL IV & 2-AEWS
SKEW 7° RHF

VCL = 786.45

K = 2165.67

1530
1520
1510
1500
1495

410 415 420 425

1516.12 1516.32 1516.52 1516.60 1516.99 1517.28 1517.44 1517.68 1517.85 1518.01 1518.21 1518.24 1518.22 1518.10 1518.13

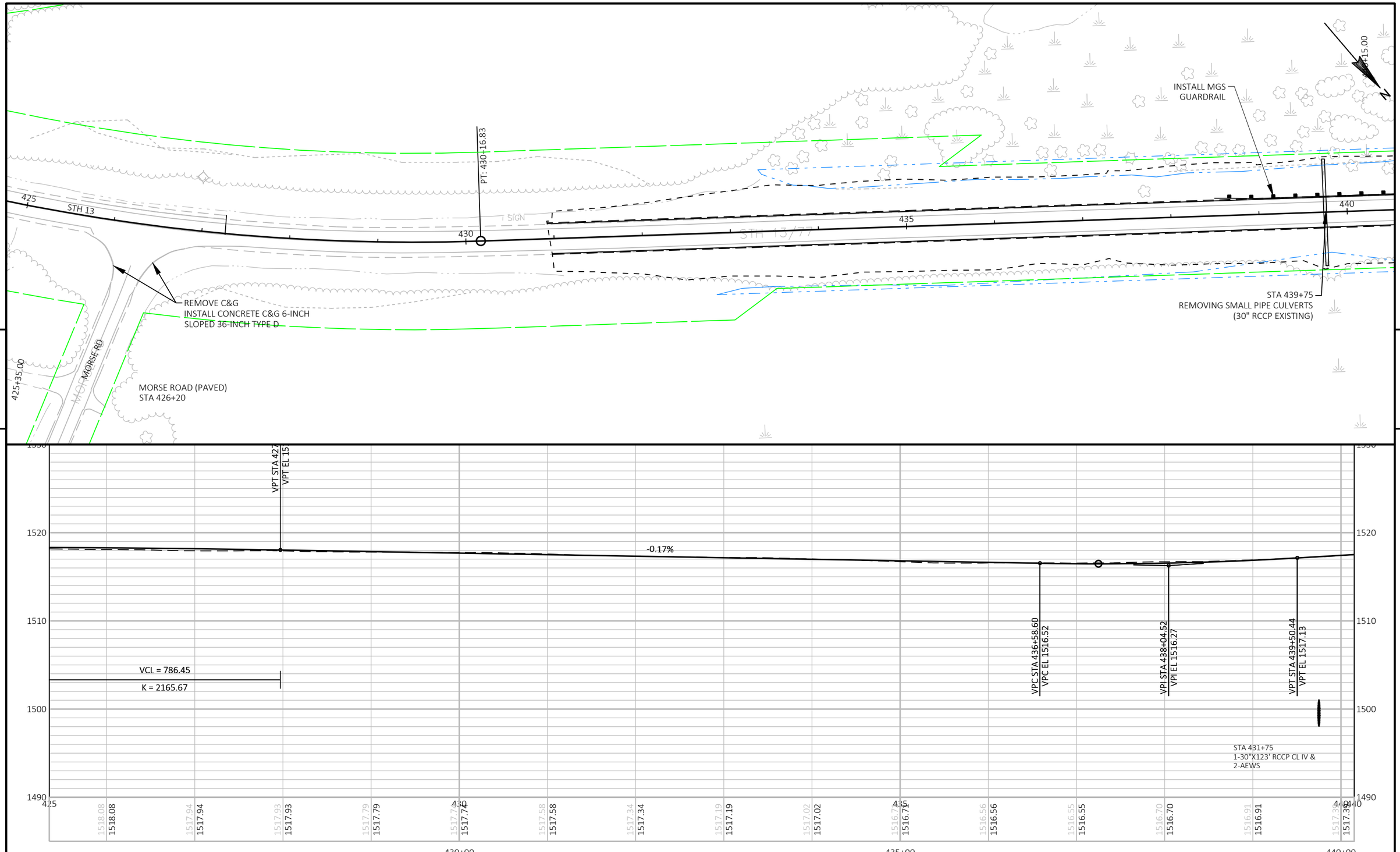
415+00 420+00 425+00

PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-3

PLOT DATE : 4/25/2018 3:11 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############

WISDOT/CADDS SHEET 44



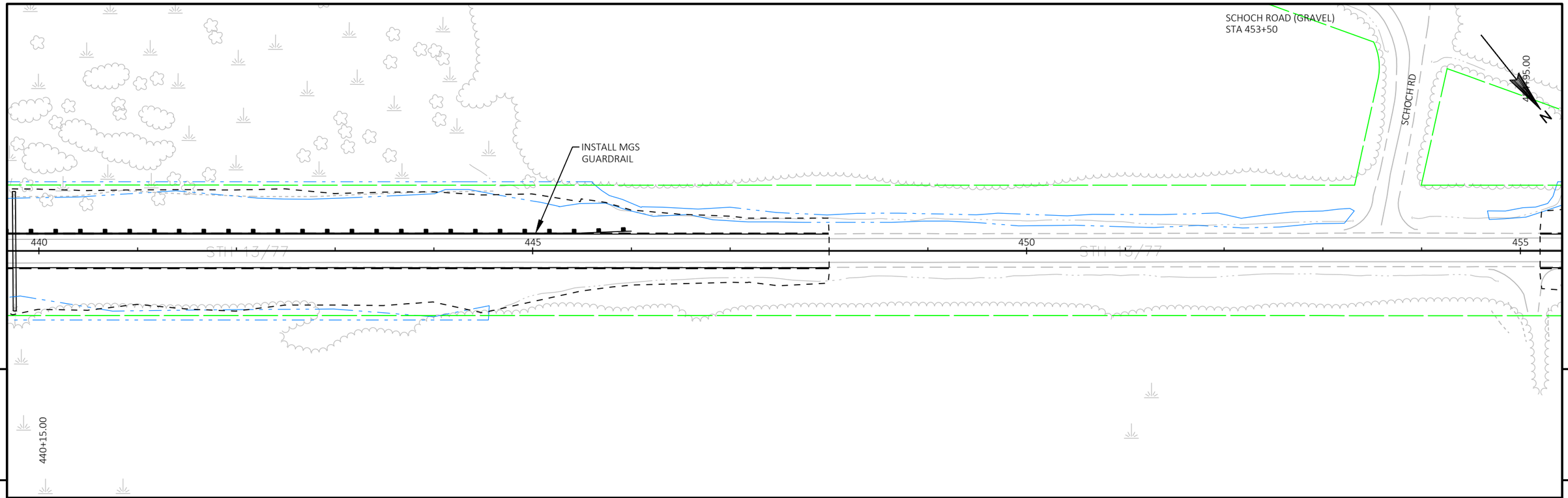
5

5

PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-4

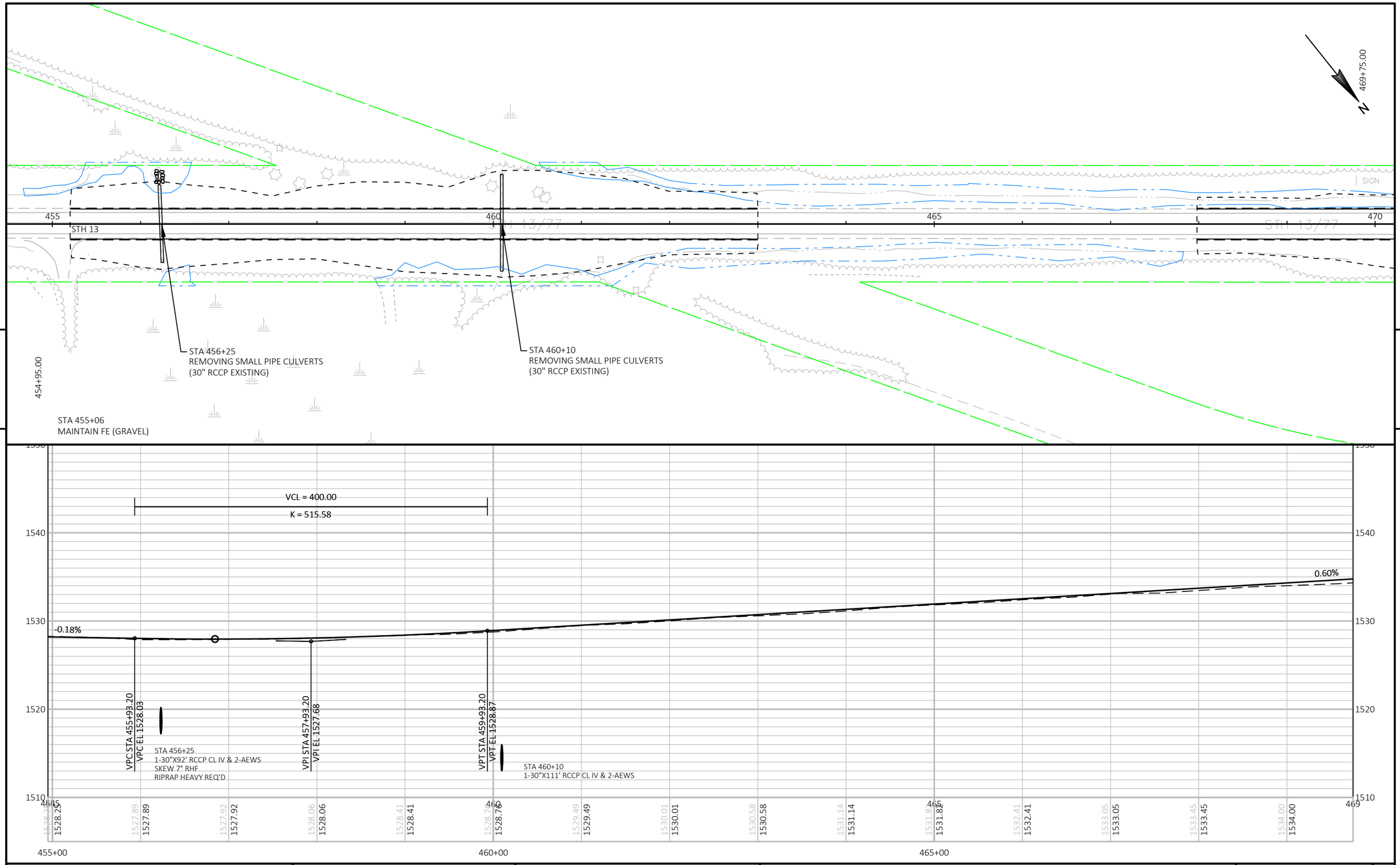
PLOT DATE : 4/25/2018 3:12 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############



PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-5

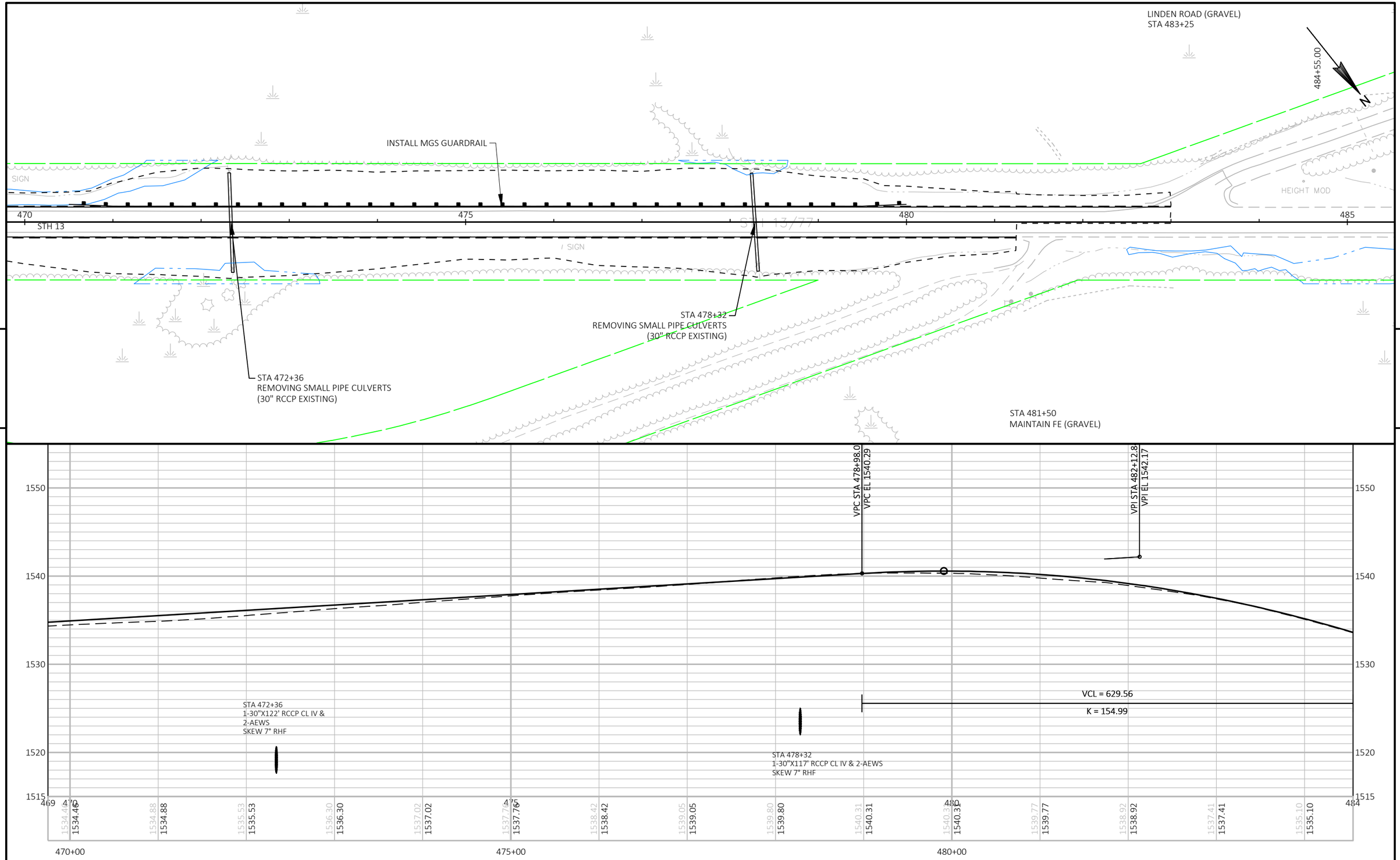
PLOT DATE : 4/25/2018 3:12 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-6

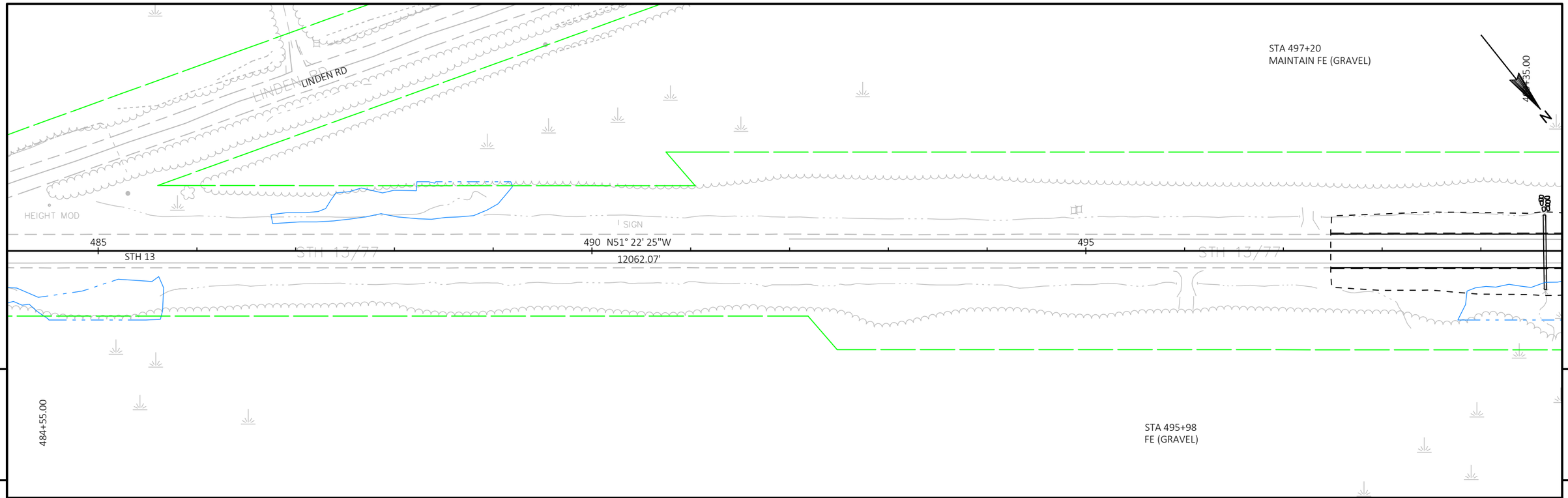
PLOT DATE : 4/25/2018 3:12 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

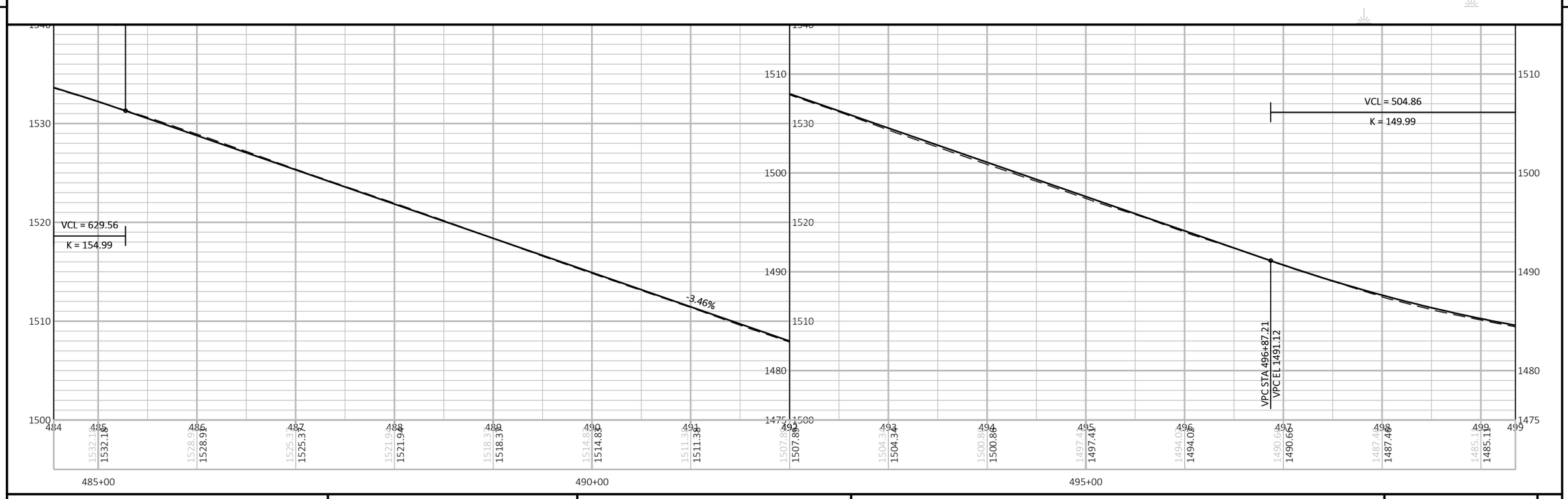


PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-7

PLOT DATE : 4/25/2018 3:13 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########





PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-8

PLOT DATE : 4/25/2018 3:13 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 513+27
FE (GRAVEL)

514+00

N

500

STH 13

505

STH 13/77

510

STH

499+35.00

STA 499+65
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

STA 507+63
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

STA 511+36
MAINTAIN FE (GRAVEL)

5

5

VCL = 504.86

K = 149.99

1500
1490
1480
1470
1460

VPI STA 499+39.64
VPI EL 1482.38

STA 499+65
1-24"X81' RCCP CL IV & 2-AEWS
SKEW 7° RHF
HEAVY RIPRAP REQ'D

VPT STA 501+92.08
VPT EL 1482.13

STA 507+63
1-42"X71' RCCP CL IV & 2-AEWS
SKEW 7° RHF
HEAVY RIPRAP REQ'D

499 500 505 510 514

1483.52 1482.60 1482.07 1481.91 1481.83 1481.79 1481.68 1481.54 1481.50 1481.38 1481.33 1481.28 1481.15 1481.09 1480.99

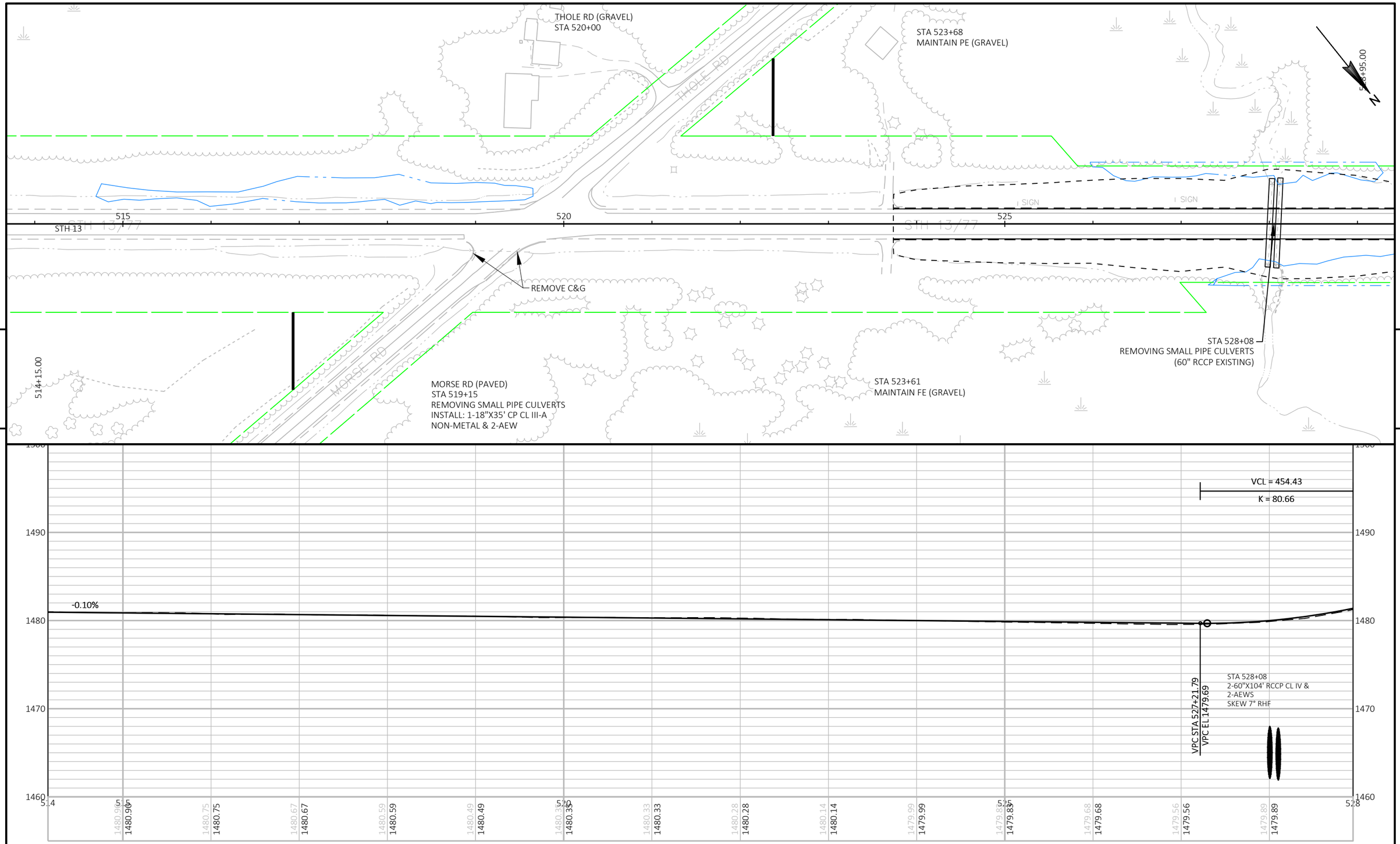
1483.52 1482.60 1482.07 1481.91 1481.83 1481.79 1481.68 1481.54 1481.50 1481.38 1481.33 1481.28 1481.15 1481.09 1480.99

500+00 505+00 510+00

PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-9

PLOT DATE : 4/25/2018 3:14 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-10
PLOT DATE : 4/25/2018 3:14 PM
PLOT BY : JENSEN, TRAVIS G
PLOT NAME :
PLOT SCALE : ############
WISDOT/CADDS SHEET 44

543+75.00

N

530

535

540

STH 13

STH 13/77

STH 13/77

I SIGN

5

5

528+95.00

STA 533+50
MAINTAIN FE (GRADE)

1510

1500

1490

1480

1475

1540 1510

1530 1500

1520 1490

1510 1480

1505 1475

VCL = 454.43

K = 80.66

5.54%

VCL = 1152.29

K = 145.38

VPI STA 529+49.00
VPI EL 1476.47

VPT STA 531+76.22
VPT EL 1492.05

1540

1530

1520

1510

1505

529	530	531	532	533	534	535	536	537	538	539	540	541	542	543
1481.39	1484.29	1488.15	1493.33	1498.83	1504.33	1509.85	1515.52	1520.76	1525.63	1529.79	1533.00	1535.53	1537.48	1538.76

530+00

535+00

540+00

PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-11

PLOT DATE : 4/25/2018 3:14 PM

PLOT BY : JENSEN, TRAVIS G

PLOT NAME :

PLOT SCALE : ##########

5

STA 552+17
MAINTAIN FE (GRAVEL)

PC: 550+78.90

558+55.00

N

550

555

545

I SIGN

STH 13

STH 13/77

STA 556+96
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

PI STA = 55
Y = 190276
X = 555150
DELTA = 37
D = 2°30'39
T = 764.69
L = 1475.72
R = 2282.00
PC STA = 55
PT STA = 56

5

543+75.00

1540
1530
1520
1510
1500

VCL = 1152.29
K = 145.38

-2.39%

STA 556+14.26
EL 1515.84

STA 556+96
2-24"X101' RCCP CL IV & 2-AEWS
SKEW 7° RHF

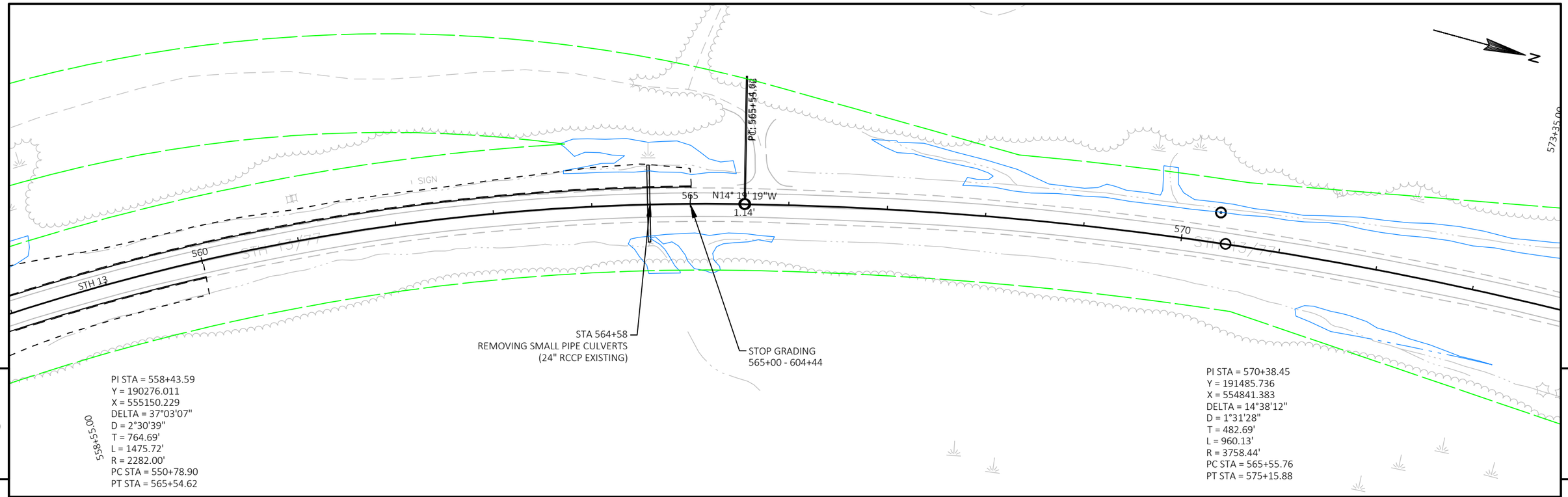
543	545	550	555	558
1539.47	1539.47	1539.44	1538.74	1538.74
1537.25	1537.25	1535.25	1535.25	1532.80
1532.80	1530.44	1528.11	1528.11	1525.64
1525.64	1523.17	1520.79	1520.79	1518.49
1518.49	1516.10	1513.55	1513.55	1510.92
1510.92				

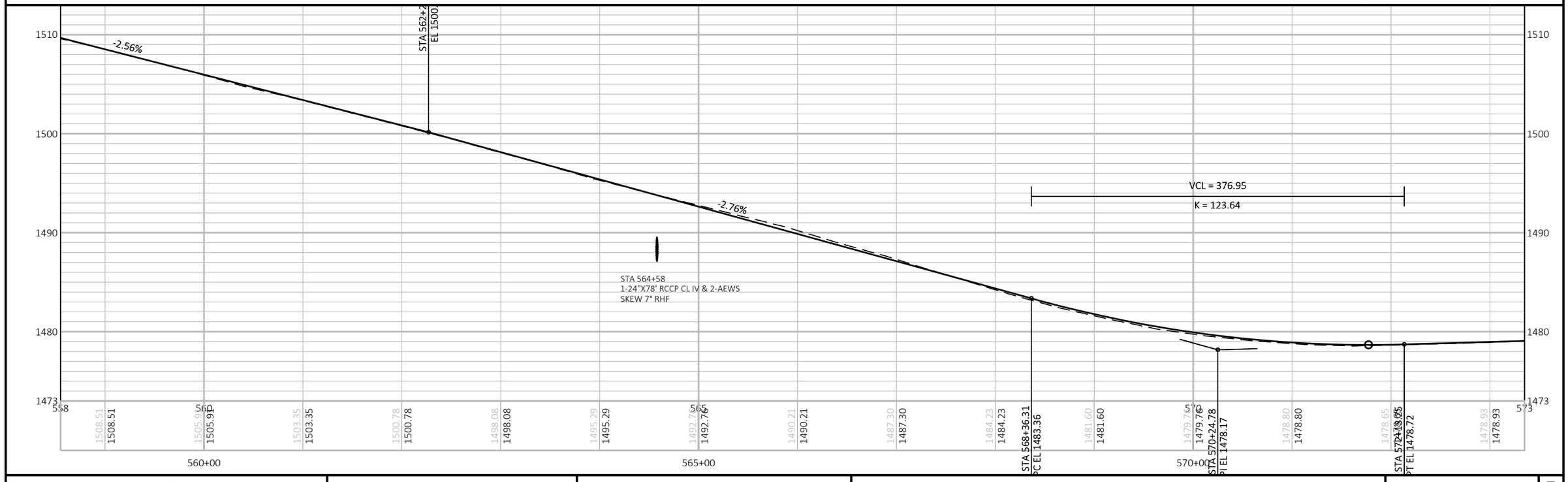
545+00 550+00 555+00

PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-12

PLOT DATE : 4/25/2018 3:15 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



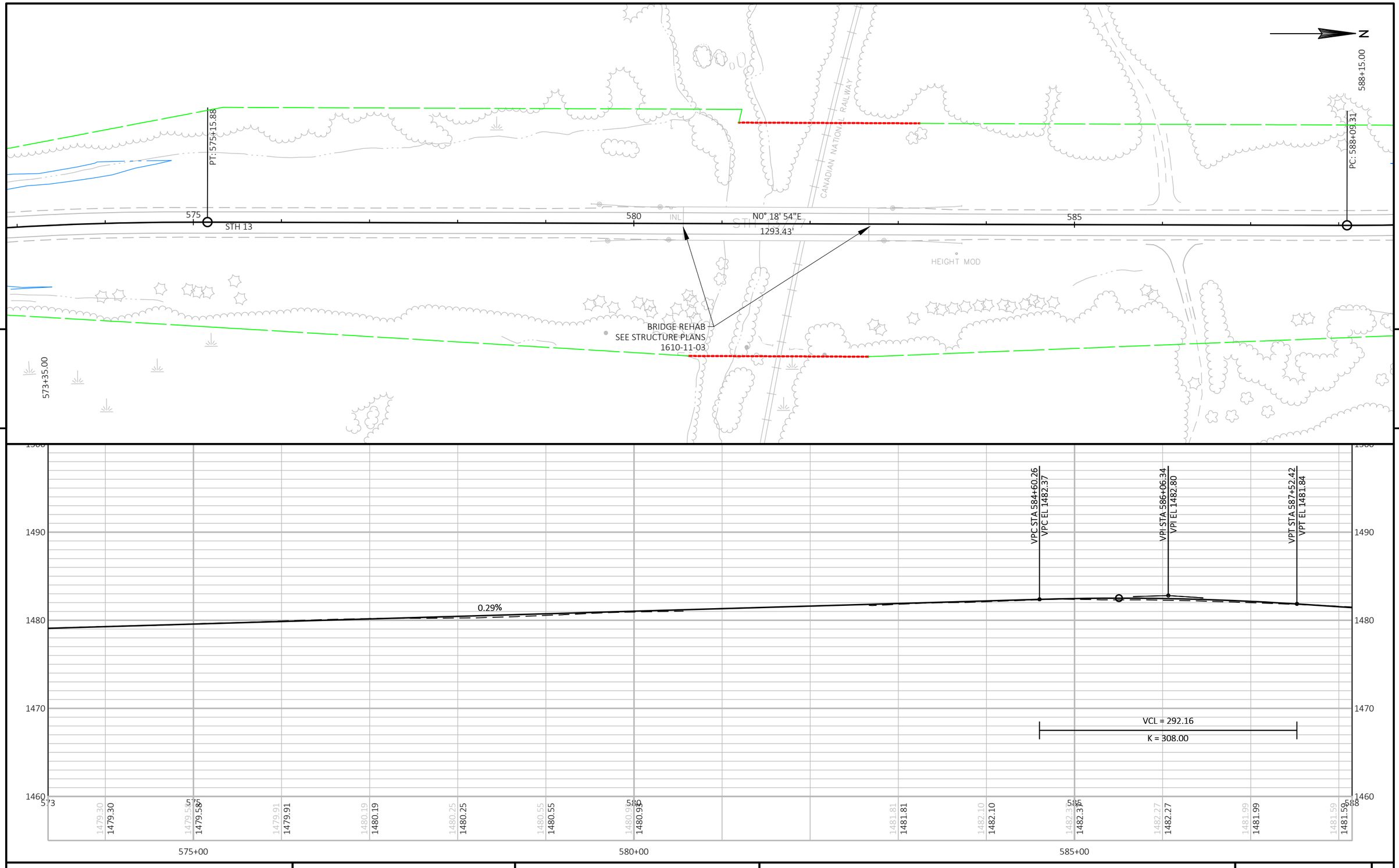


PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-13

PLOT DATE : 4/25/2018 3:15 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

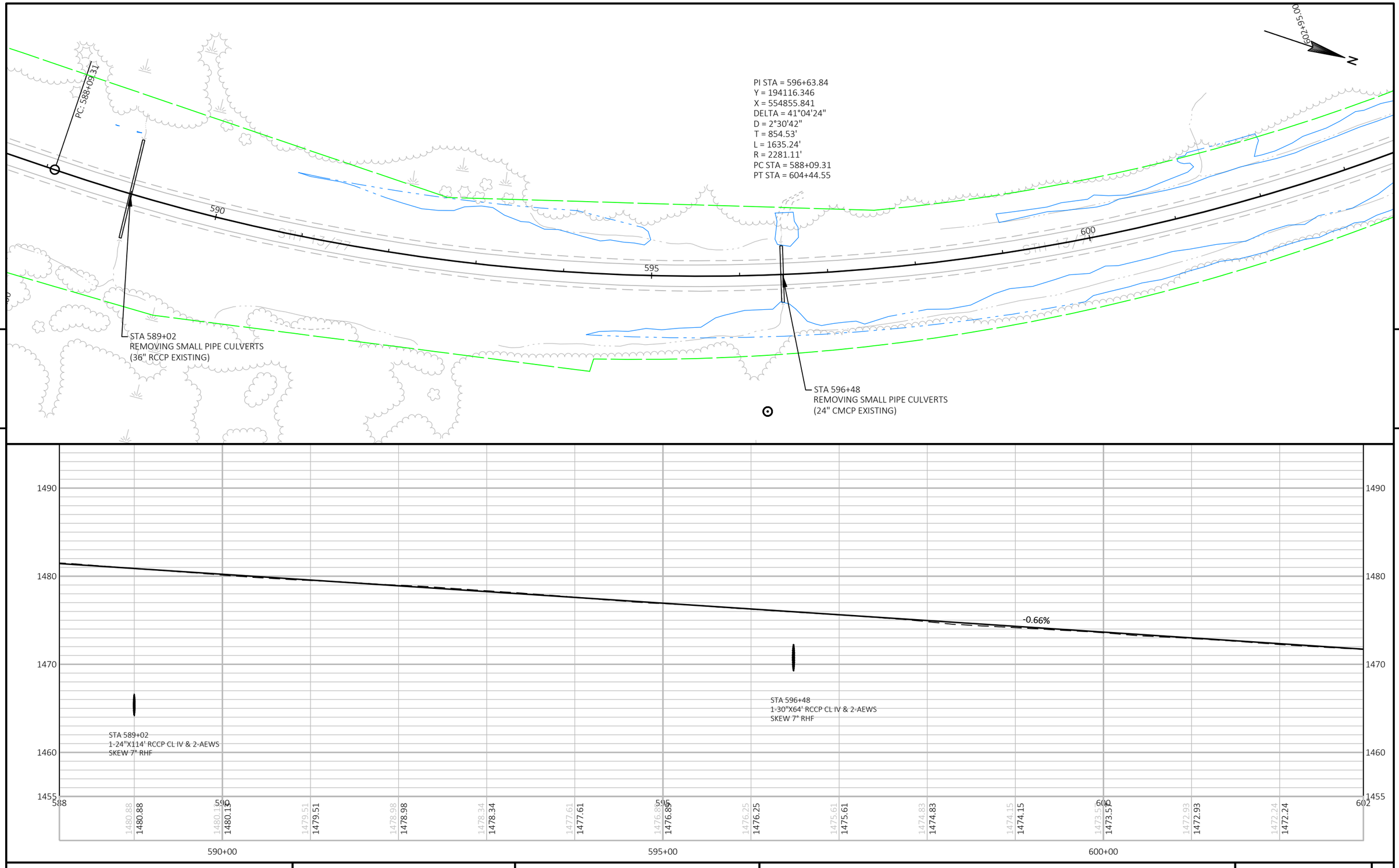
WISDOT/CADDS SHEET 44



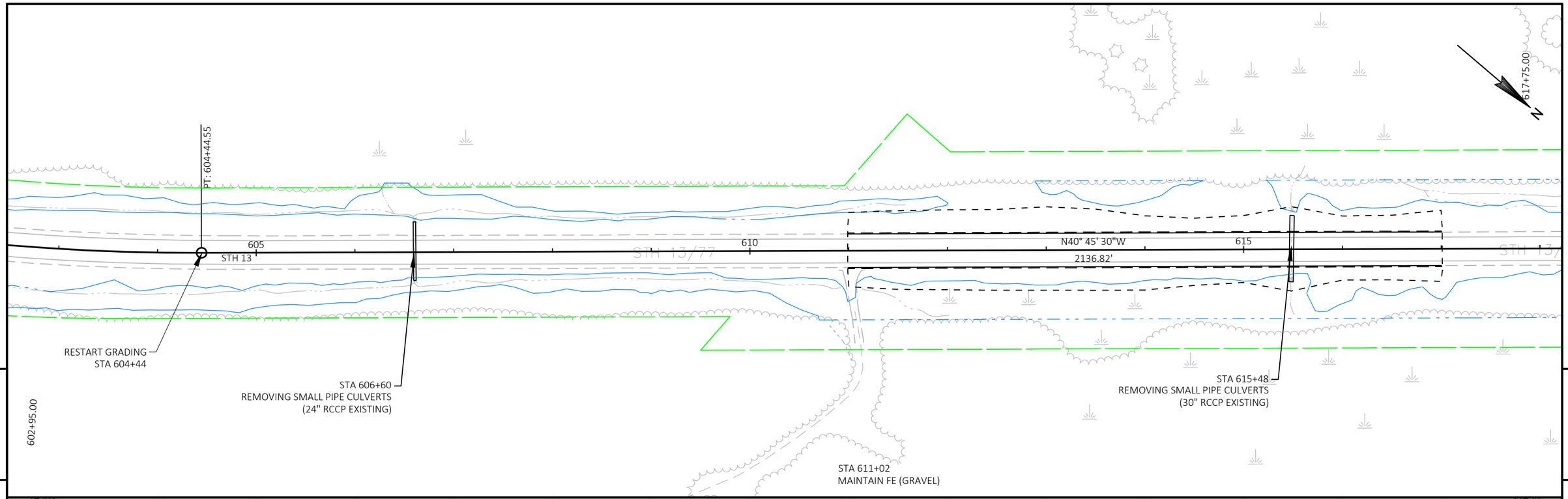
PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

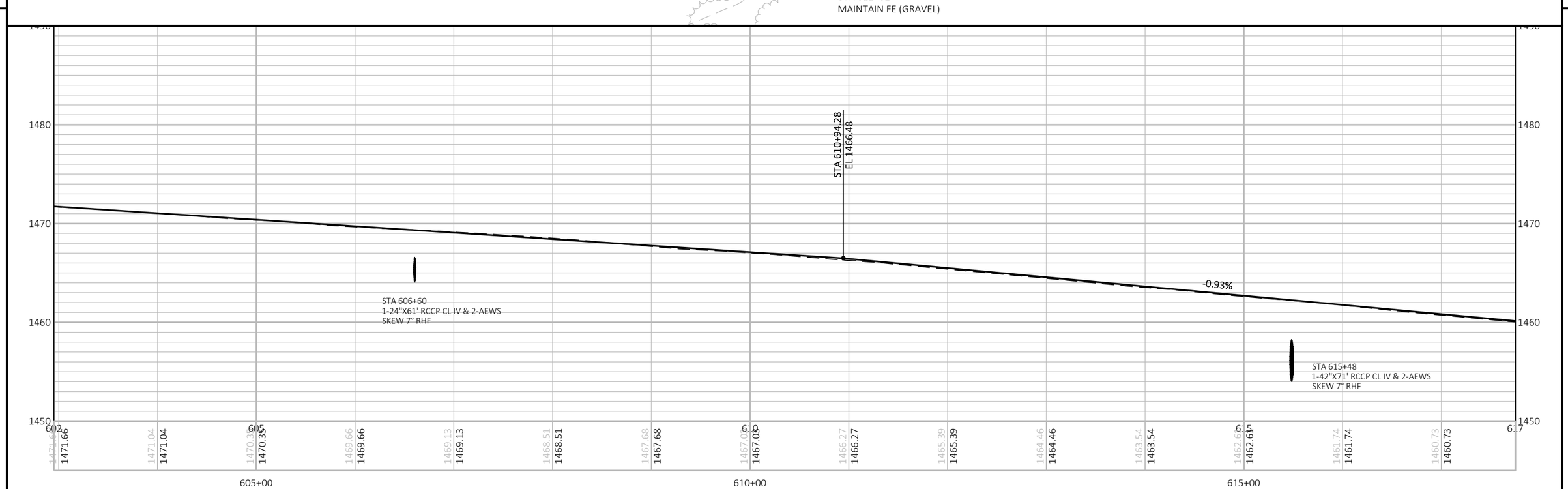
FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-14

PLOT DATE : 4/25/2018 3:15 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E





PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-16
PLOT DATE : 4/25/2018 3:16 PM
PLOT BY : JENSEN, TRAVIS G
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

STA 620+05
PE (GRAVEL)

STA 626+80
FE (GRAVEL)

CAYUGA RD (GRAVEL)
STA 628+00

CAYUGA RD

N

PC: 625+81.38

620

625

630

STH 13

STH 13/77

STA 621+72
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

617+75.00

STA624+50
CONSTRUCT FE (GRAVEL)

CAYUGA RD

E CAYUGA RD (GRAVEL)
STA 627+50
REMOVING SMALL PIPE CULVERTS
INSTALL: 1-24"X56' CP CL III-A
NON-METAL & 2-AEW

PI ST
Y = 1
X = 5

5

5

VCL = 201.24
K = 293.90

VCL = 456.39
K = 784.87

VCL = 191.00
K = 273.98

-0.25%
0.13%
-0.57%

VPC STA 618+50.88
VPC EL 1459.43

VPI STA 619+51.50
VPI EL 1458.49

VPT STA 620+52.12
VPT EL 1458.25

STA 621+72
1-30"X64' RCCP CL IV & 2-AEWS
SKEW 7° RHF

STA 623+92.68
EL 1457.40

VPC STA 624+98.26
VPC EL 1457.54

VPI STA 625+93.76
VPI EL 1457.66

VPT STA 626+89.26
VPT EL 1457.11

VPC STA 628+01.17
VPC EL 1456.48

VPI STA 630+29.37
VPI EL 1455.18

VPT STA 632+57.56
VPT EL 1455.20

1480
1470
1460
1450
1440

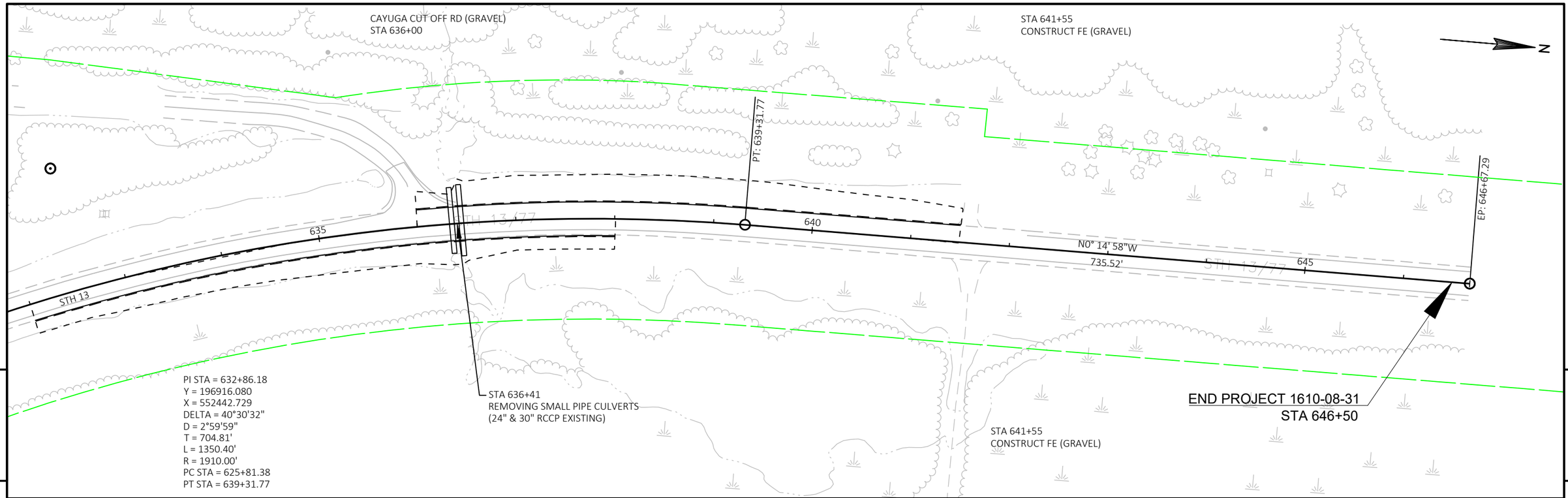
617
620
625
630
632

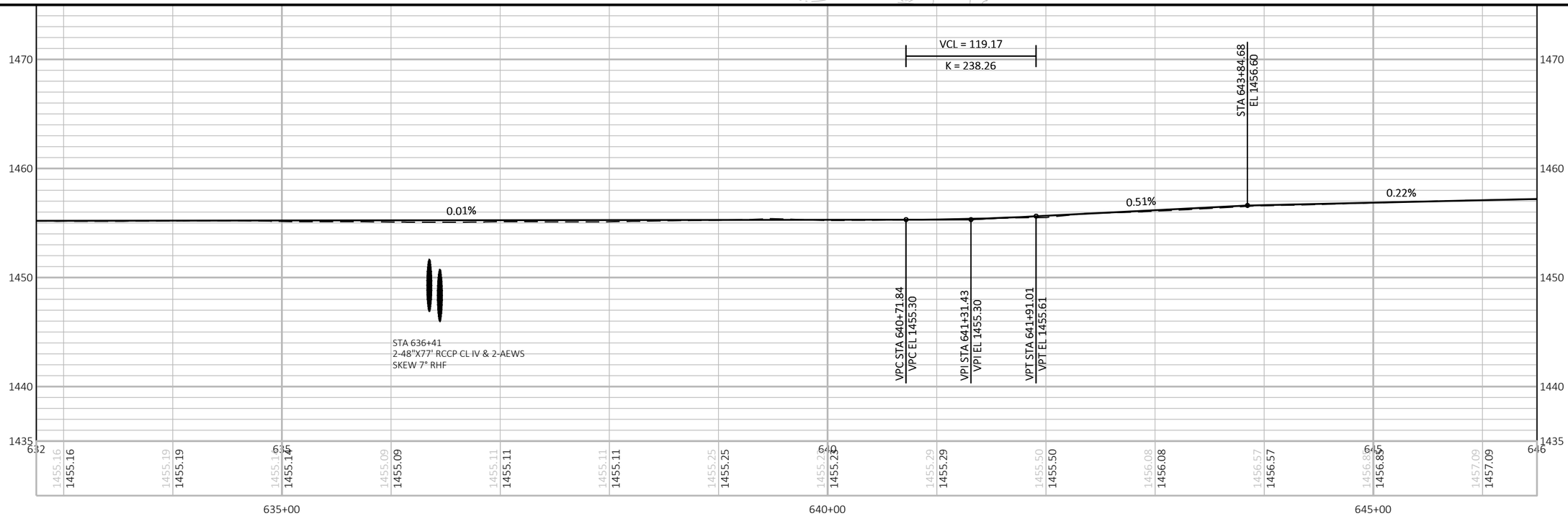
1459.95 1459.95
1458.85 1458.85
1458.32 1458.32
1458.07 1458.07
1457.88 1457.88
1457.63 1457.63
1457.35 1457.35
1457.50 1457.50
1457.48 1457.48
1457.02 1457.02
1456.43 1456.43
1455.96 1455.96
1455.59 1455.59
1455.23 1455.23
1455.17 1455.17

620+00
625+00
630+00

PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-17
PLOT DATE : 4/25/2018 3:16 PM
PLOT BY : JENSEN, TRAVIS G
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 44





PROJECT NO: 1610-08-74	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: PLAN & PROFILE	SHEET	E

FILE NAME : N:\PDS\C3D\16100831\SHEETSPLAN\16100831_P&P.DWG
LAYOUT NAME - P&P-18

PLOT DATE : 4/25/2018 3:16 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

PROJECT ID: **1610-08-76**

WITH:

COUNTY: **ASHLAND**

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1610-08-76		

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

PARK FALLS - MELLEN

CAYUGA ROAD - JEFFERSON AVENUE

STH 13
ASHLAND

STATE PROJECT NUMBER
1610-08-76

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

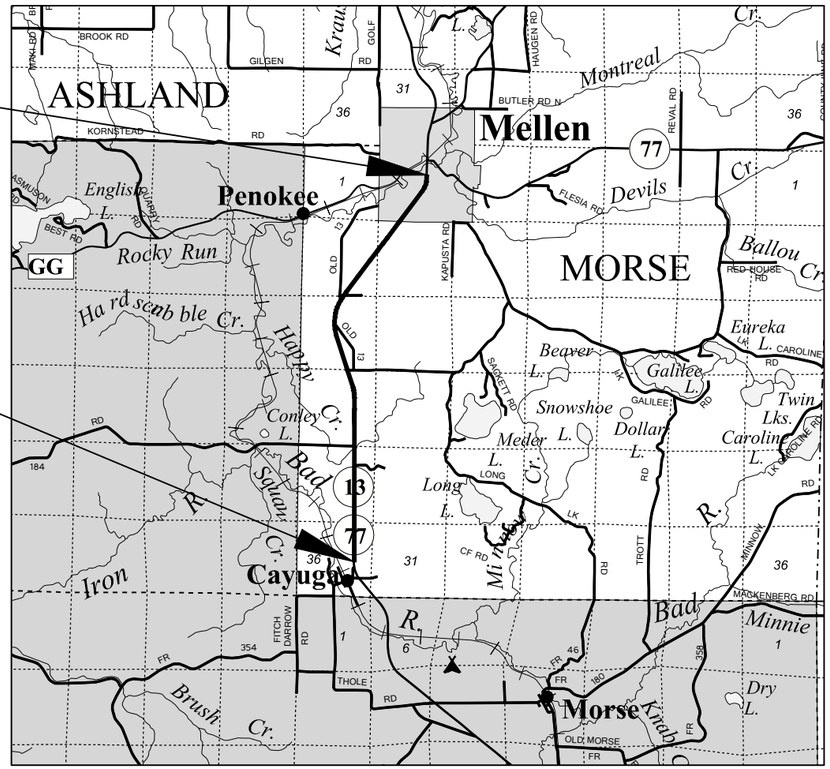
TOTAL SHEETS =



N

END PROJECT
STA 927+00

BEGIN PROJECT
STA 646+50



LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 5.31

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, COUNTY COUNTY, NAD83 (YEAR), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

DESIGN DESIGNATION 1610-08-06

A.A.D.T.	2015	=	1200
A.A.D.T.	2040	=	1400
D.H.V.		=	196
D.D.		=	60/40
T.		=	30.6%
DESIGN SPEED		=	60
ESALS		=	

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	QUEST, LLC
Designer	TRAVIS JENSEN
Project Manager	MATT DICKENSON
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	REGIONAL SUPERVISOR

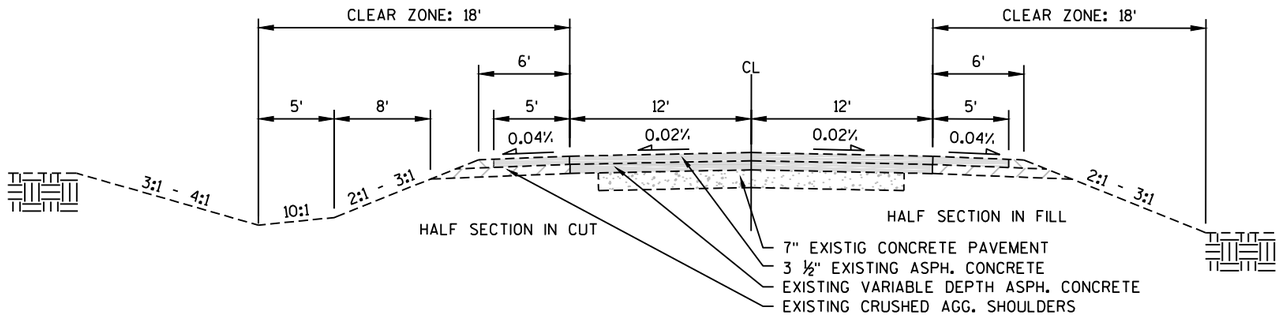
APPROVED FOR THE DEPARTMENT

DATE: _____ _____ (Signature)

E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_TI.DWG PLOT DATE : 6/20/2017 12:41 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME :

2



TYPICAL EXISTING SECTION STH 13

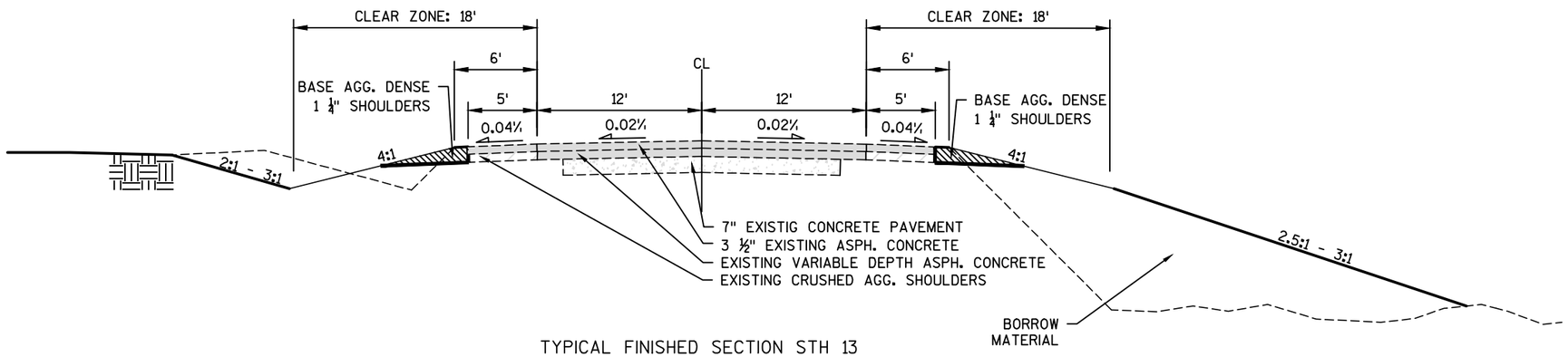
STA 646+50 TO 927+00

PROJECT NO: 1610-08-06	HWY: STH 13	COUNTY: ASHLAND	TYPICAL SECTIONS	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_TS.DWG
1610-08-06 - TS-1

PLOT DATE : 11/29/2017 2:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 42

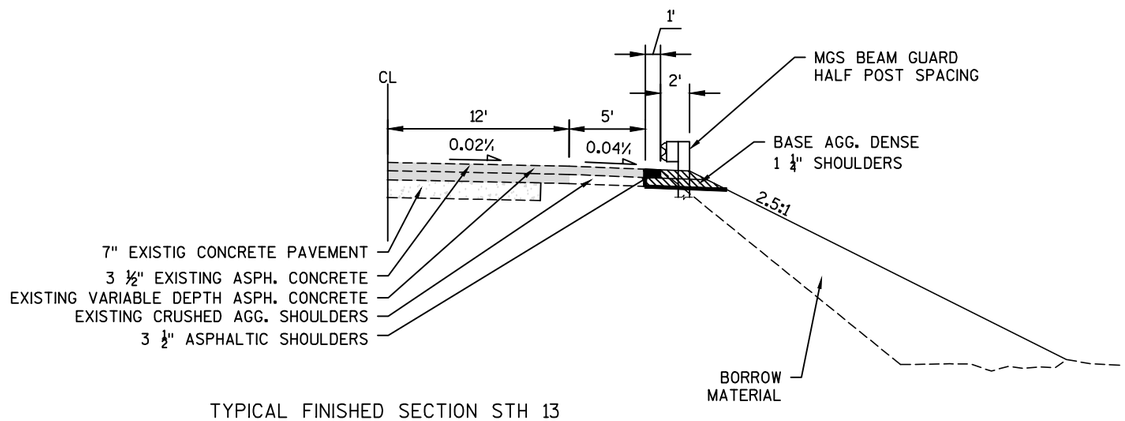


TYPICAL FINISHED SECTION STH 13

STA 646+50 TO STA 804+13
STA 808+00 TO STA 813+00
STA 826+00 TO STA 927+00

HALF SECTION IN CUT

HALF SECTION IN FILL

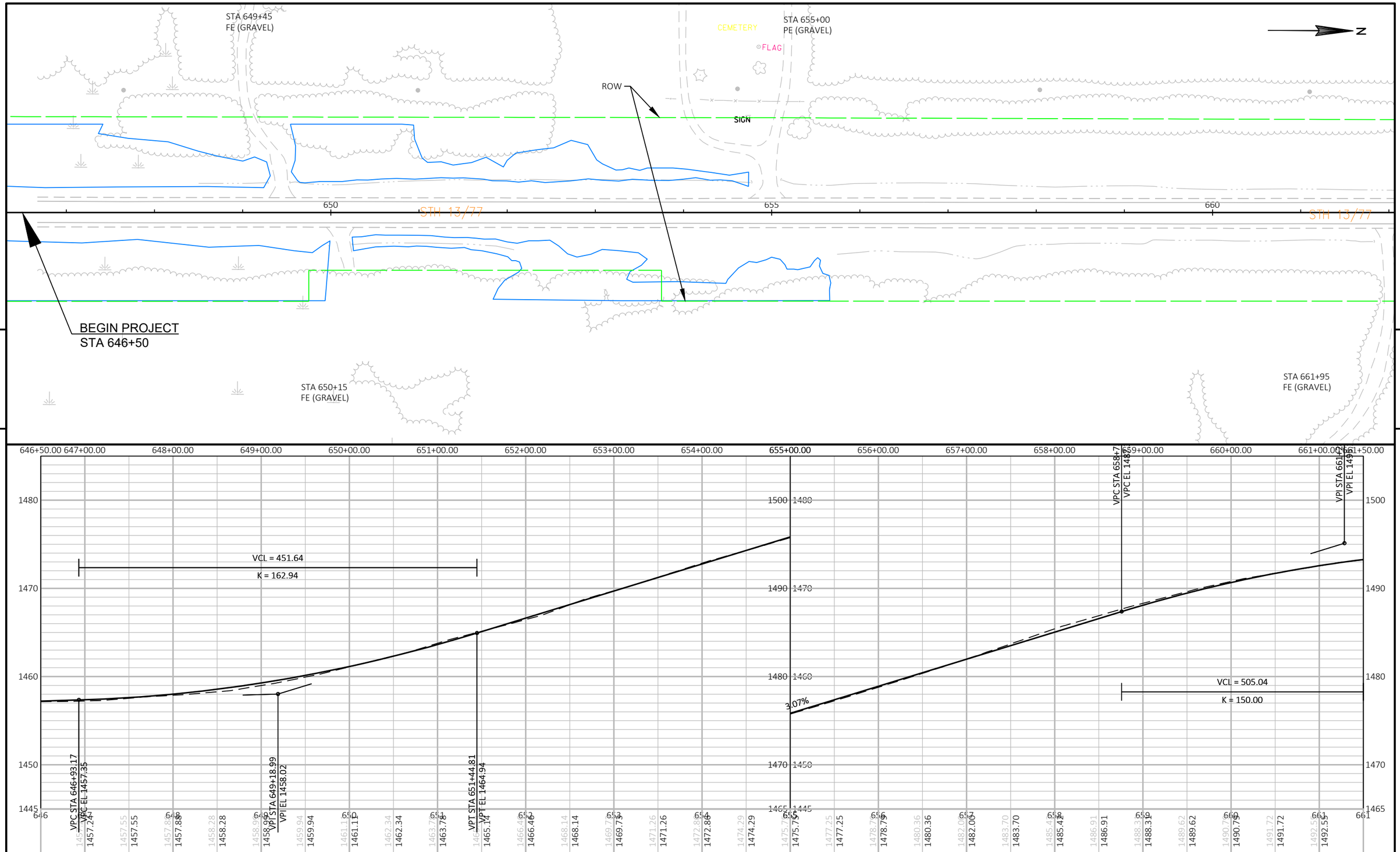


TYPICAL FINISHED SECTION STH 13

STA 804+13 TO STA 808+00
STA 813+00 TO STA 826+00

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	TYPICAL SECTIONS	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_TS.DWG
1610-08-06 - TS-2
PLOT DATE : 11/29/2017 2:01 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



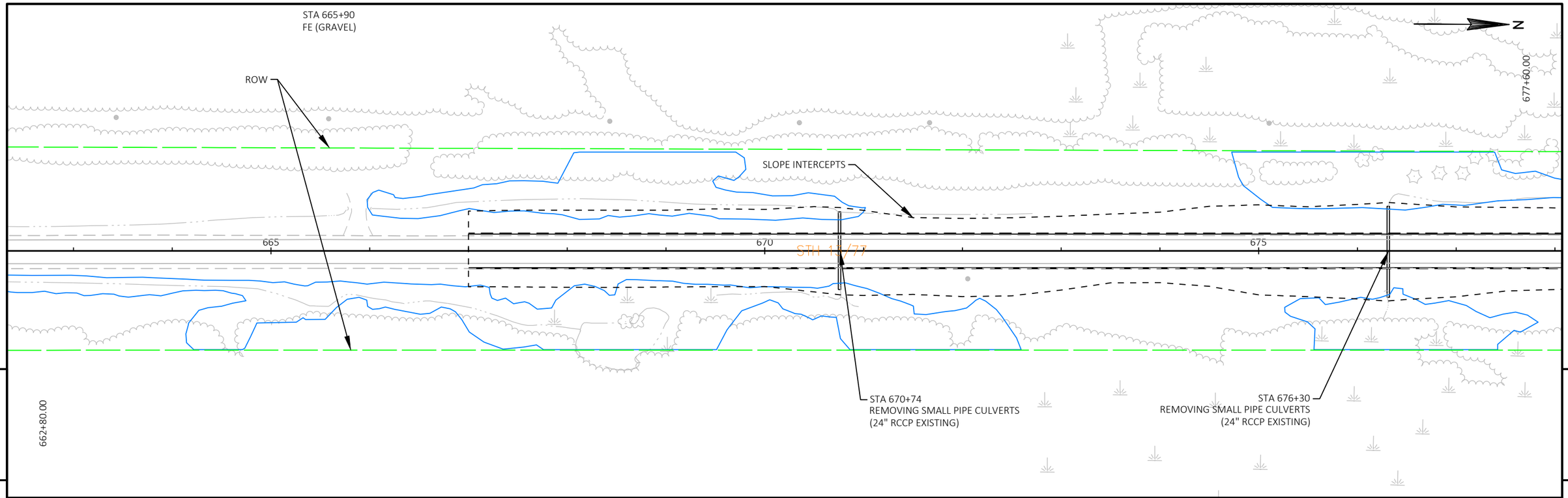
5

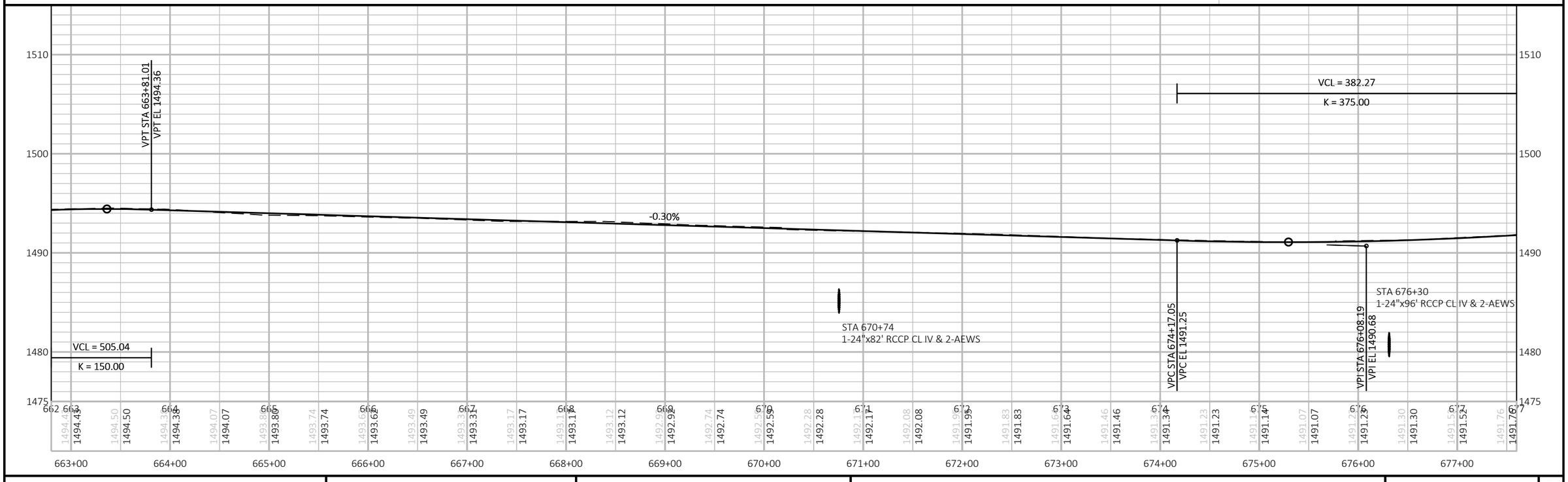
5

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 1

PLOT DATE : 4/25/2018 3:38 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############





PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 2

PLOT DATE : 4/25/2018 3:38 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 686+35
FE (GRAVEL)

N

692+40.00

ROW

SLOPE INTERCEPTS

680

STH 13/77

685

690

STH 13/77

STA 681+32
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

677+60.00

STA 685+00
FE (GRAVEL)

STA 691+20
PE (GRAVEL)

5

5

VPC STA 689+71
VPC EL 1500.48

1510
VCL = 382.27
K = 375.00
1500
1490
1480
1475

0.72%

VCL = 1082.56
K = 340.00

VPT STA 677+99.33
VPT EL 1492.05

STA 681+32
1-24"x75' RCCP CL IV & 2-AEWS

677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692
1492.18	1492.56	1492.84	1493.10	1493.45	1493.81	1494.04	1494.42	1494.72	1495.05	1495.63	1496.17	1496.44	1496.91	1497.16	1497.35	1497.69	1498.05	1498.44	1498.84	1499.29	1499.67	1500.03	1500.36	1500.68	1501.00	1501.17	1501.21	1501.21

678+00 679+00 680+00 681+00 682+00 683+00 684+00 685+00 686+00 687+00 688+00 689+00 690+00 691+00 692+00

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 3

PLOT DATE : 4/25/2018 3:39 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 693+20
MAINTAIN FE (GRAVEL)

STA 705+55
PE (GRAVEL)

N

707+20.00

SLOPE INTERCEPTS

ROW

695

N0° 15' 43"W
11458.01'

700

705

STH 13/77

STH 13/77

STA 694+73
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

692+40.00

STA 696+40
MAINTAIN PE (GRAVEL)

STA 703+75
PE (GRAVEL)

CONLEY RD - RT (GRAVEL)
STA 707+00

5

5

1500
1490
1480
1470
1465

VCL = 1082.56

K = 340.00

STA 694+73
1-24"x107' RCCP CL IV & 2-AEWS

-2.46%

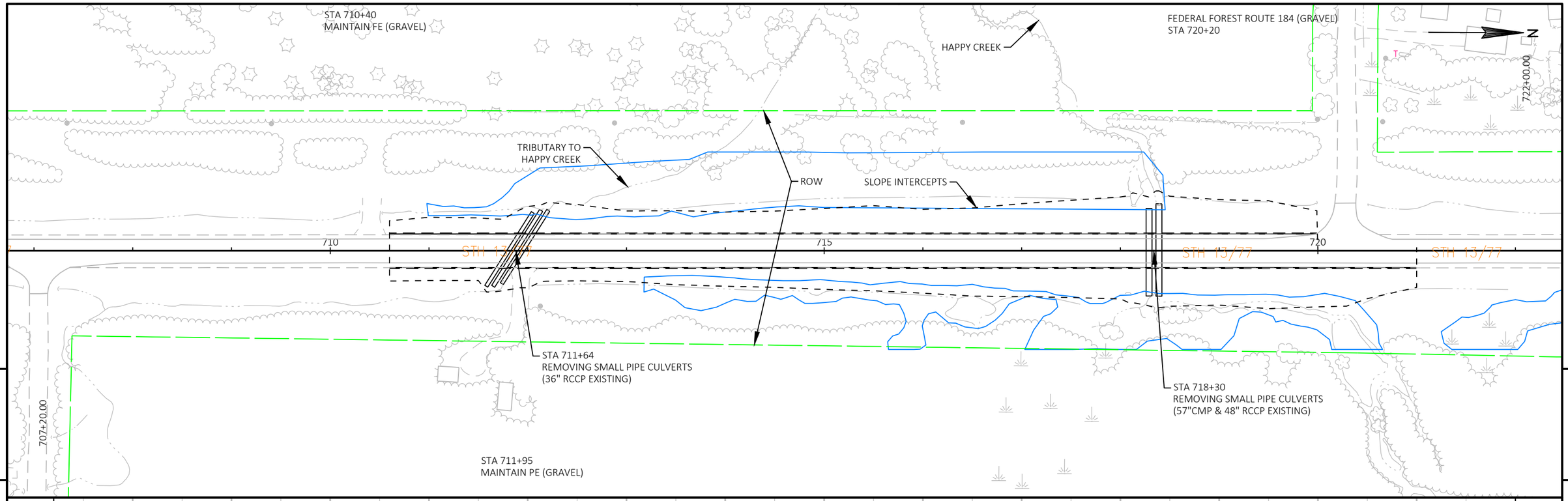
692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707
1501.21	1501.01	1500.74	1500.41	1500.28	1500.00	1499.54	1499.00	1498.54	1497.96	1497.24	1496.50	1495.62	1494.63	1493.50	1492.30
1491.20	1489.99	1488.78	1487.57	1486.35	1484.99	1483.71	1482.57	1481.29	1480.09	1478.85	1477.61	1476.44	1475.27	707.707	

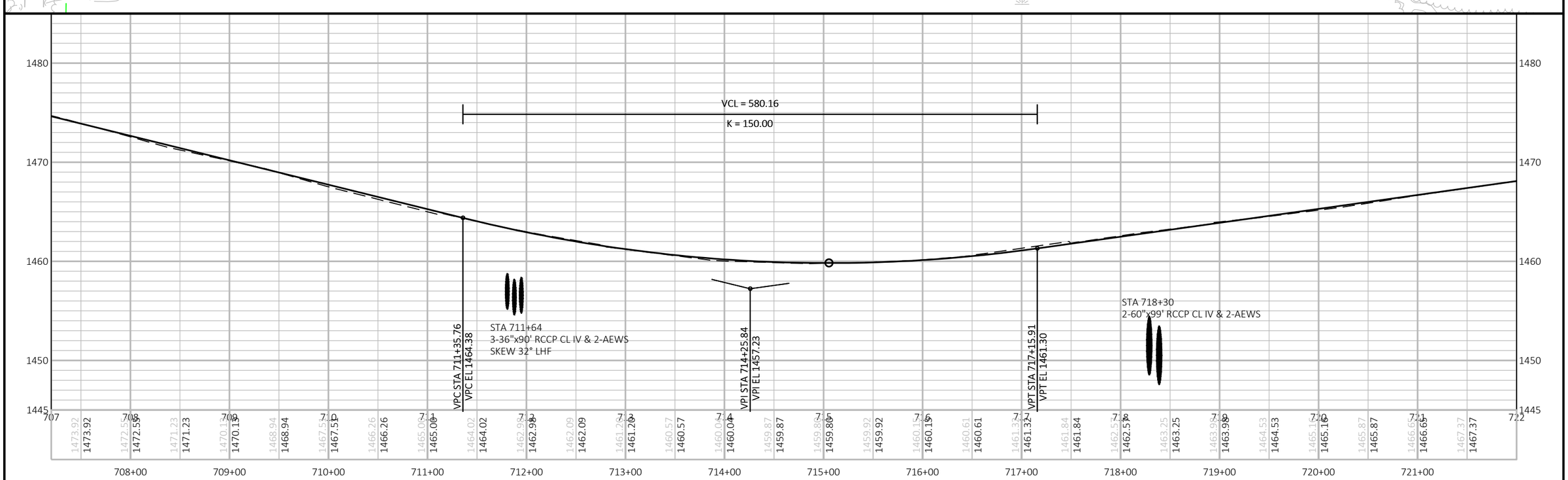
693+00 694+00 695+00 696+00 697+00 698+00 699+00 700+00 701+00 702+00 703+00 704+00 705+00 706+00 707+00

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 4

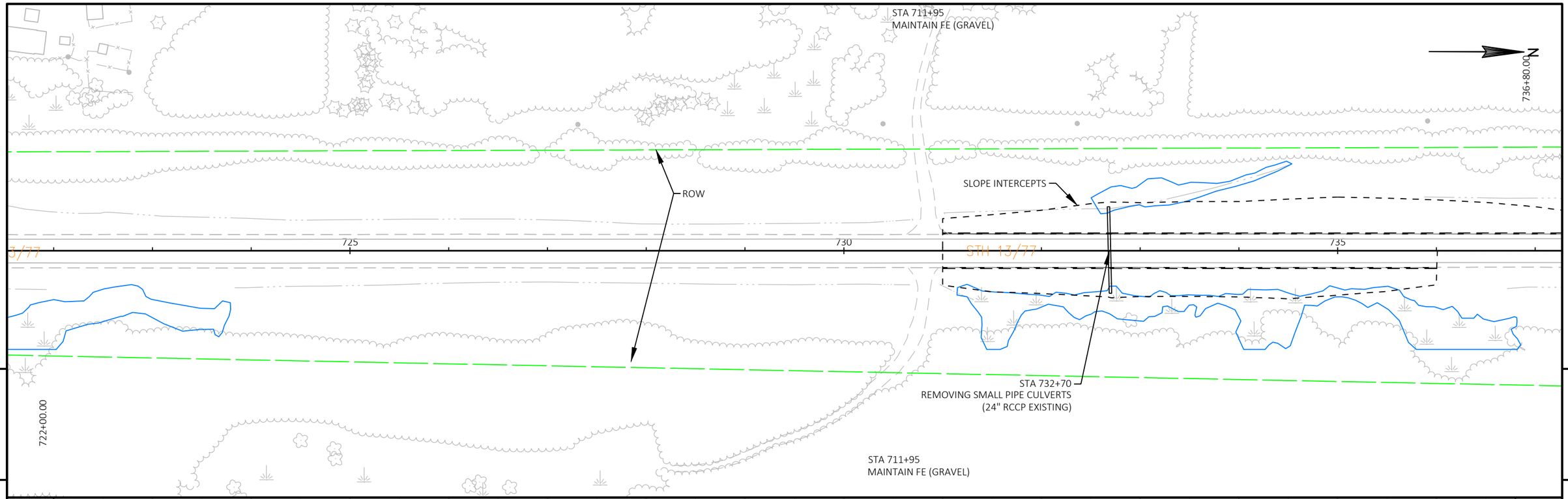
PLOT DATE : 4/25/2018 3:39 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

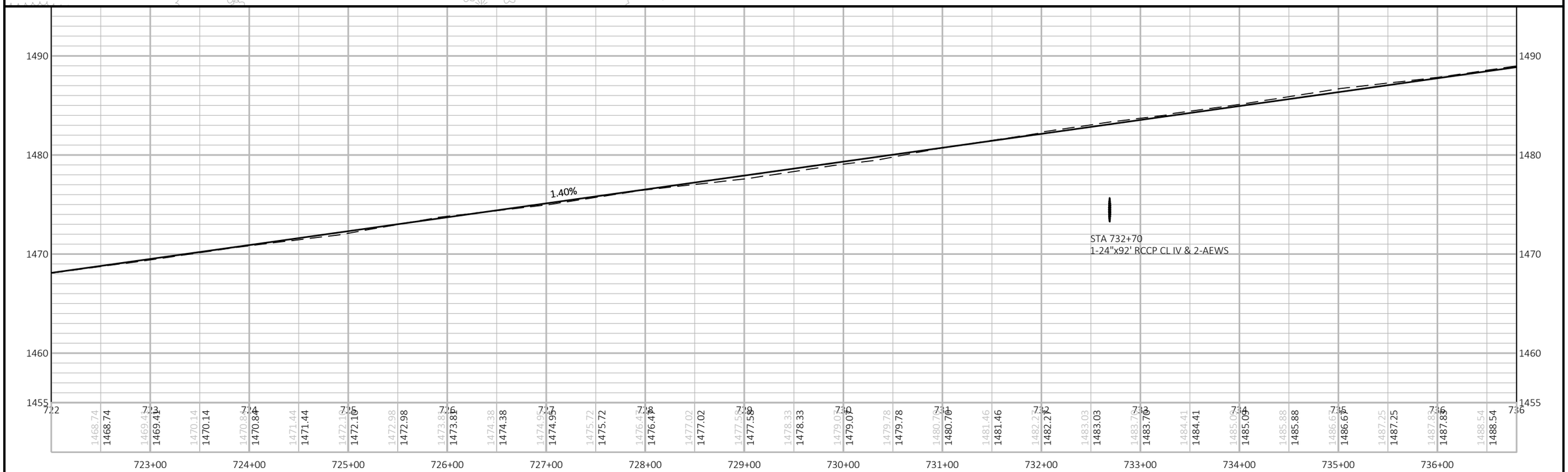




PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 5
PLOT DATE : 4/25/2018 3:39 PM
PLOT BY : JENSEN, TRAVIS G
PLOT NAME :
PLOT SCALE : ############
WISDOT/CADDS SHEET 44

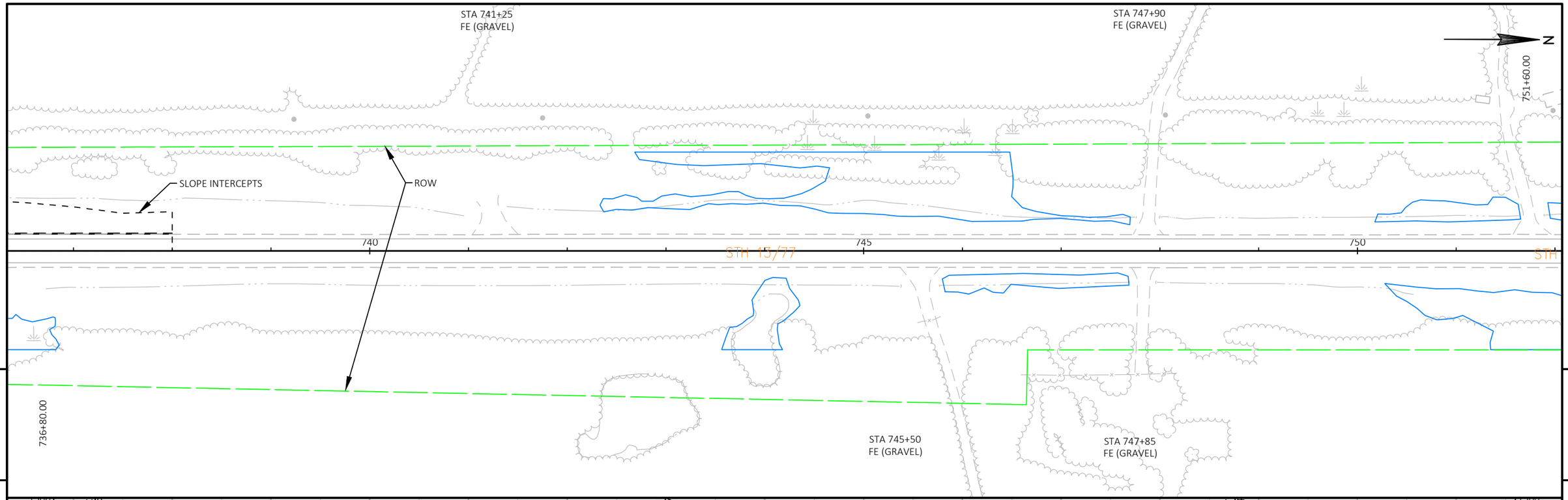




PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 6

PLOT DATE : 4/25/2018 3:39 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########



PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 7
PLOT DATE : 4/25/2018 3:40 PM
PLOT BY : JENSEN, TRAVIS G
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

STA 751+75
PE (GRAVEL)

RUINS

PC: 753+87.12

STH 13/77

755

ROW

760

STH 13/77

PT: 762+96.71

STA 763+10
MAINTAIN FE (GRAVEL)

N

766+40.00

SLOPE INTERCEPTS

765

STA 765+94
REMOVING SMALL PIPE CULVERTS
(48" CMP & 48" RCCP EXISTING)

STA 756+10
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

PI STA = 758+45.76
Y = 209534.982
X = 552386.067
DELTA = 18°09'32"
D = 1°59'47"
T = 458.64'
L = 909.59'
R = 2870.00'
PC STA = 753+87.12
PT STA = 762+96.71

751+60.00

5

5

K = 185.00

-3.17%

VPC STA 761+07.87
VPC EL 1440.25

STA 765+94
2-60"x91' RCCP CL IV & 2-AEWS

1470 1460 1450 1440 1435

1450 1440 1430 1420 1415

751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766

1469.07 1467.50 1466.06 1464.44 1462.82 1461.07 1459.19 1457.97 1456.42 1455.00 1453.12 1451.54 1449.99 1448.44 1446.93 1445.44 1443.82 1442.16 1440.65 1439.19 1437.85 1436.69 1435.57 1434.60 1433.76 1432.89 1432.38 1432.25 1431.93

752+00 753+00 754+00 755+00 756+00 757+00 758+00 759+00 760+00 761+00 762+00 763+00 764+00 765+00 766+00

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 8

PLOT DATE : 4/25/2018 3:40 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 768+30
MAINTAIN PE (GRAVEL)

SEPTIC
SEPV

SLOPE INTERCEPTS

ROW

STA 770+78
REMOVING SMALL PIPE CULVERTS
(36" RCCP EXISTING)

STH 13/77

LAKE DR

LAKE DRIVE (PAVED)
STA 774+25
REMOVING CURB & GUTTER
INSTALL: XX LF CURB & GUTTER

STA 776+00
ABANDON CATTLE PASS
(60" RCCP EXISTING)

STA 777+40
FE (GRAVEL)

STA 780+75
PE (GRAVEL)

781+20.00

N18° 25' 14"W
3531.05'

STA 768+35
MAINTAIN PE (GRAVEL)

766+40.00

5

5

VCL = 1740.80
K = 185.00

STA 770+78
1-36"x87" RCCP CL IV & 2-AEWS
SKEW 27° LHF

6.24%

VCL = 471.54
K = 130.00

VPT STA 778+48.67
VPT EL 1467.01

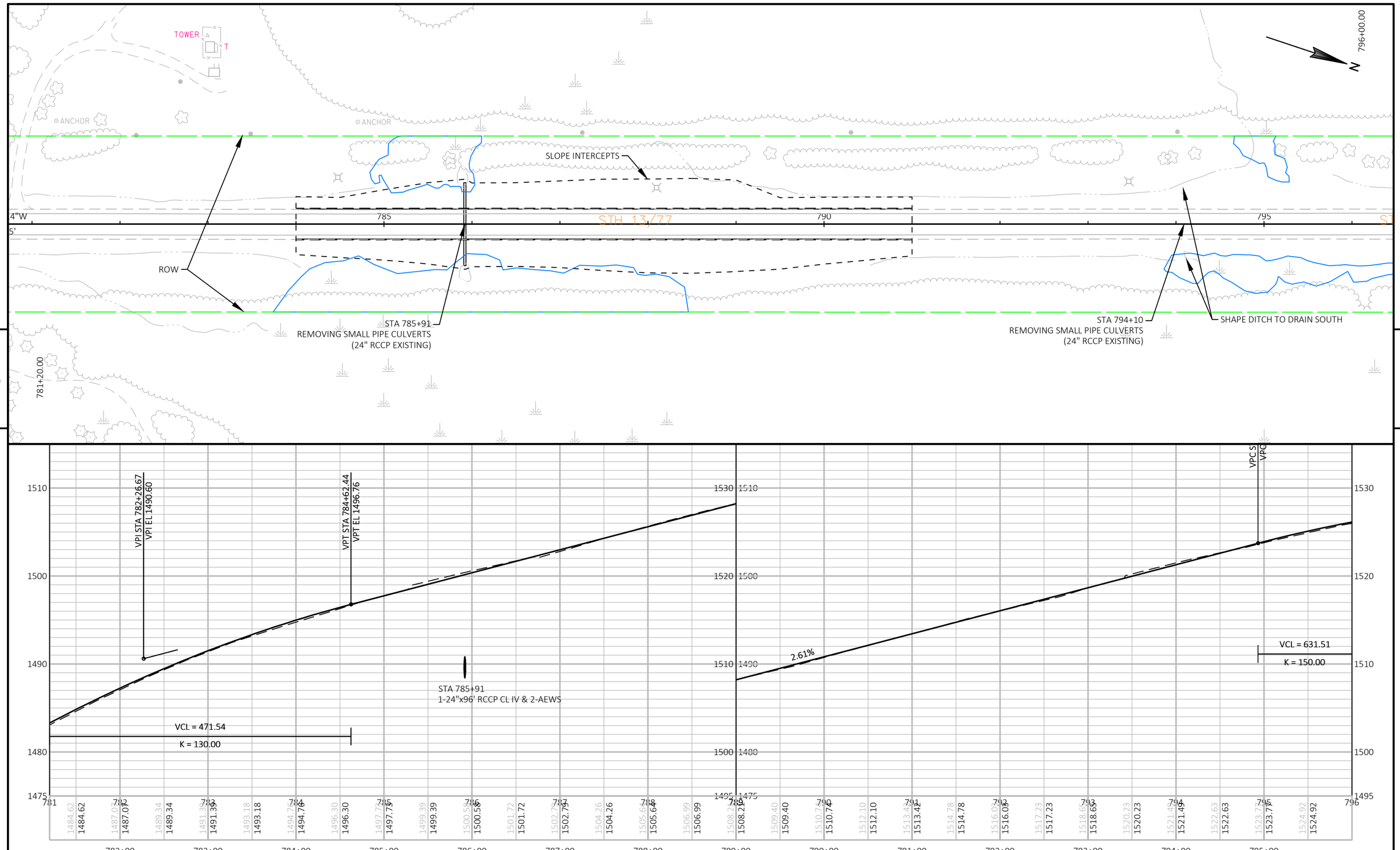
766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781
1431.79	1431.64	1431.84	1432.09	1432.38	1432.84	1433.45	1434.12	1435.22	1436.19	1437.16	1438.08	1439.14	1440.37	1441.81	1443.46	1445.37	1447.64	1450.39	1453.04	1455.87	1458.58	1461.54	1464.50	1470.29	1473.29	1476.19	1479.08	1481.91
767+00	768+00	769+00	770+00	771+00	772+00	773+00	774+00	775+00	776+00	777+00	778+00	779+00	780+00	781+00														

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 9

PLOT DATE : 4/25/2018 3:40 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 44



PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 10

PLOT DATE : 4/25/2018 3:40 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############

STA 797+90
MAINTAIN FE (GRAVEL)

STA 799+90
MAINTAIN PE (GRAVEL)

STA 803+85
MAINTAIN FE (GRAVEL)

STA 808+25
MAINTAIN FE (GRAVEL)

N

MGS BEAM GUARD
(HALF POST SPACING)

SLOPE INTERCEPTS

SLOPE INTERCEPTS

PC: 798+27.76

STH 13/77

800

805

STH 13/77

810

810+80.00

STA 806+25
REMOVING SMALL PIPE CULVERTS
(36" RCCP EXISTING)

ROW

STA 798+90
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

FOLEY RD

STA 801+45
FE (GRAVEL)

FOLEY RD (GRAVEL)
STA 807+50

796+00.00

5

5

1530
1520
1510
1500
1495

STA 798+90
1-24"x77' RCCP CL IV & 2-AEWS

VCL = 631.51
K = 150.00

-1.60%

VPC STA 808+48.75
VPC EL 1515.38

VPI STA 810+15.01
VPI EL 1512.73

STA 806+25
1-30"x149' RCCP CL IV & 2-AEWS
SKEW 17° LHF

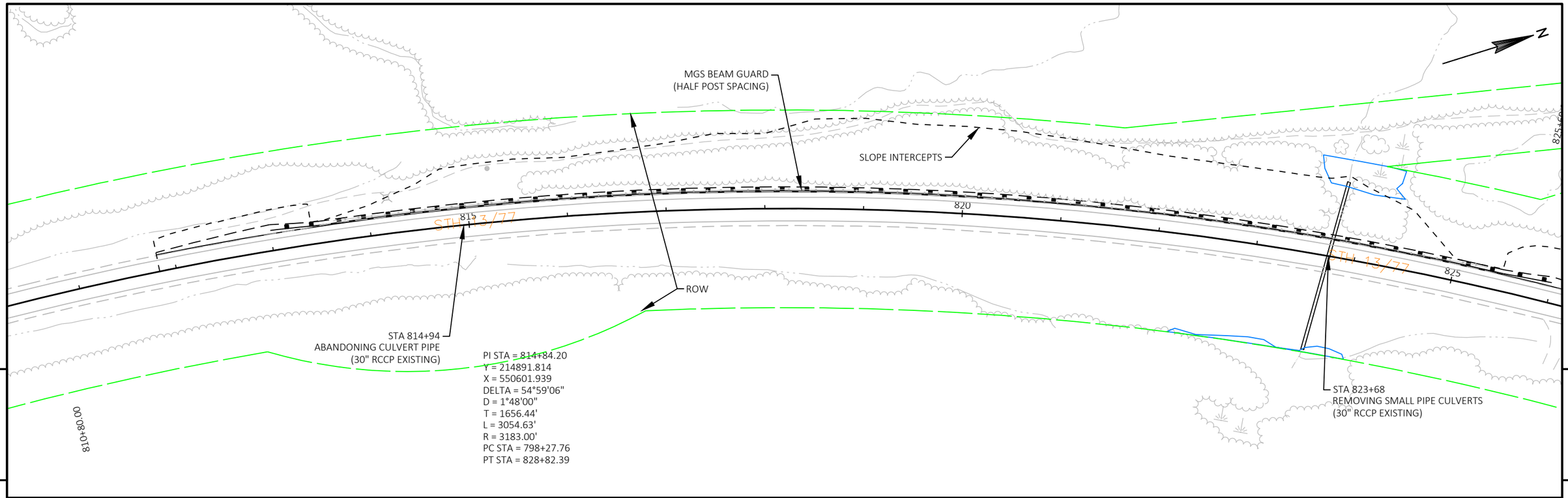
VCL = 332.54
K = 75.00

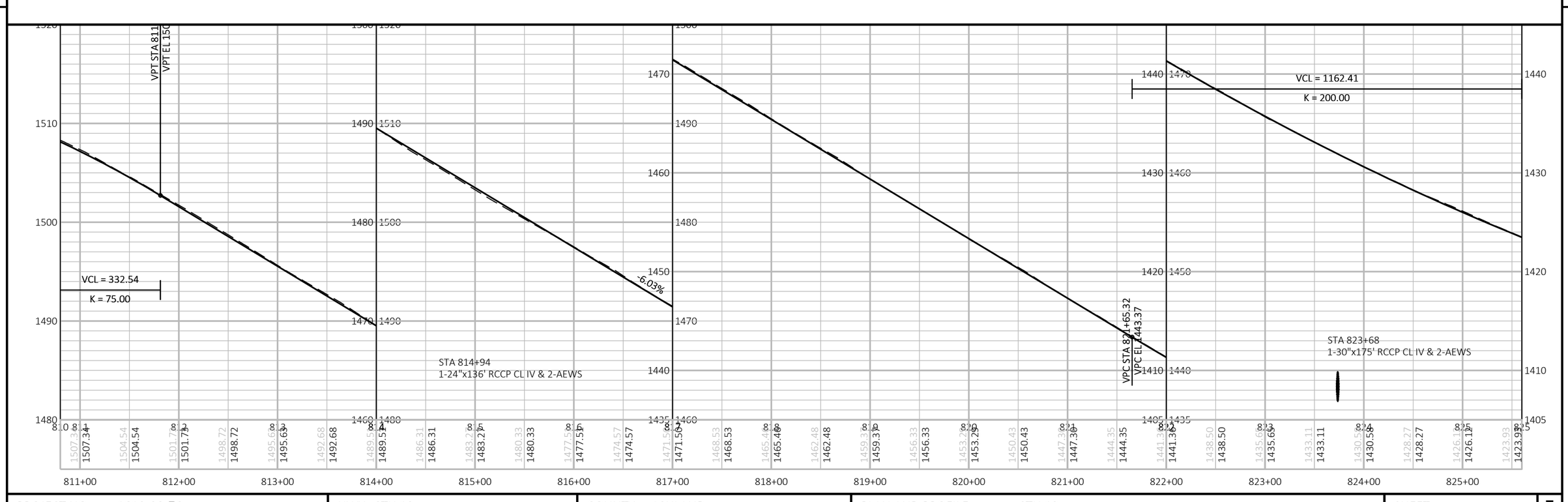
796 797 798 799 800 801 802 803 804 805 806 807 808 809 810

1526.84 1526.84 1527.63 1527.63 1528.24 1528.24 1528.69 1528.69 1528.98 1528.98 1528.99 1528.99 1528.87 1528.87 1528.41 1528.41 1527.85 1527.85 1527.19 1527.19 1526.34 1526.34 1525.65 1525.65 1525.02 1525.02 1524.28 1524.28 1523.38 1523.38 1522.43 1522.43 1521.69 1521.69 1520.84 1520.84 1520.02 1520.02 1519.35 1519.35 1518.50 1518.50 1517.79 1517.79 1516.91 1516.91 1516.21 1516.21 1515.47 1515.47 1514.50 1514.50 1513.13 1513.13 1511.48 1511.48 1509.63 1509.63

797+00 798+00 799+00 800+00 801+00 802+00 803+00 804+00 805+00 806+00 807+00 808+00 809+00 810+00

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET	E





PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 12

PLOT DATE : 4/25/2018 3:41 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 44

STA 826+45
MAINTAIN PE (GRAVEL)

FOLEY RD (GRAVEL)
STA 828+50

FOLEY RD

PT: 828+82.39

N

840+40.00

STA 840+00
FE (GRAVEL)

SLOPE INTERCEPTS

830

STH 13/71

835

840

STH 13/71

ROW

STA 831+87
REMOVING SMALL PIPE CULVERTS
(24" RCCP EXISTING)

STA 835+45
REMOVING SMALL PIPE CULVERTS
(30" RCCP EXISTING)

TAFELSKI RD

825+60.00

STA 826+20
FE (GRAVEL)

TAFELSKI RD (GRAVEL)
STA 829+00

STA 840+00
PE (GRAVEL)

5

5

VCL = 1162.41
K = 200.00

-0.22%

VPI STA 827+46.53
VPI EL 1408.33

STA 831+87
1-24"x86' RCCP CL IV & 2-AEWS

VPT STA 833+27.73
VPT EL 1407.07

STA 835+45
1-30"x80' RCCP CL IV & 2-AEWS

1450
1420
1410
1400
1390

825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840
1421.96	1421.96	1420.15	1420.15	1418.41	1418.41	1416.62	1416.62	1415.18	1415.18	1413.62	1413.62	1412.51	1412.51	1411.32	1411.32
1410.33	1410.33	1409.56	1409.56	1408.82	1408.82	1408.01	1408.01	1407.49	1407.49	1407.20	1407.20	1407.20	1407.20	1407.04	1407.04
1406.96	1406.96	1406.84	1406.84	1406.50	1406.50	1406.38	1406.38	1406.26	1406.26	1406.17	1406.17	1406.16	1406.16	1406.14	1406.14
1406.08	1406.08	1405.94	1405.94	1405.92	1405.92	1405.88	1405.88	1405.77	1405.77						

826+00 827+00 828+00 829+00 830+00 831+00 832+00 833+00 834+00 835+00 836+00 837+00 838+00 839+00 840+00

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 13

PLOT DATE : 4/25/2018 3:41 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 44

STA 845+05
MAINTAIN FE (GRAVEL)

N

855+20.00

STA 854+60
FE (GRAVEL)

SLOPE INTERCEPTS

840 STH 13/77 845 850 STH 13/77 855

ROW

STA 845+90
REMOVING SMALL PIPE CULVERTS
(30" RCCP EXISTING)

5

840+40.00

STA 845+00
MAINTAIN FE (GRAVEL)

STA 854+65
FE (GRAVEL)

5

1430
1420
1410
1400
1395

VCL = 487.09
K = 127.50

3.60%

VCL = 719.38
K = 87.50

STA 845+90
2-48"x82' RCCP CL IV & 2-AEWS

VPC STA 842+44.57
VPC EL 1405.08

VPI STA 844+88.11
VPI EL 1404.55

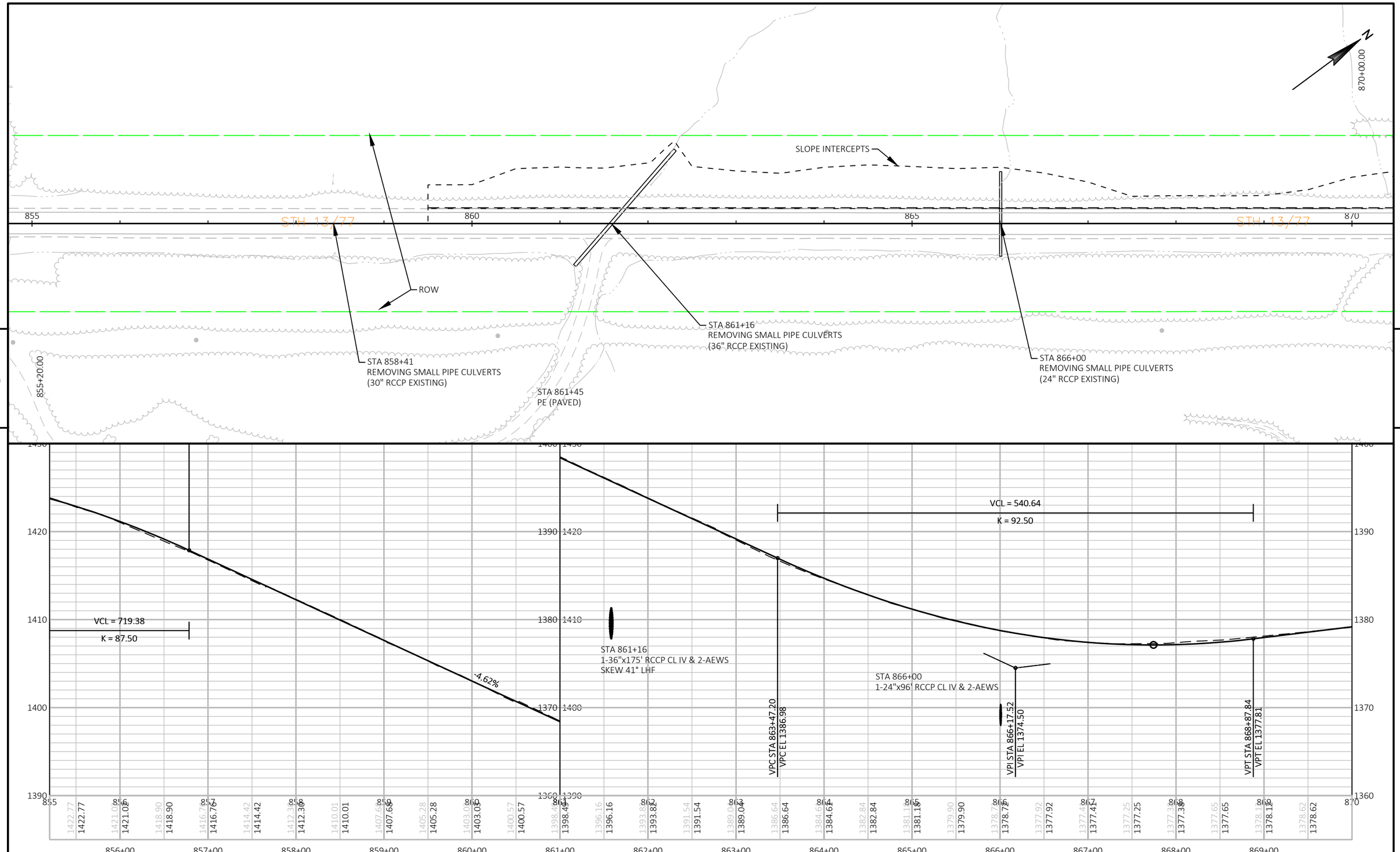
VPT STA 847+31.66
VPT EL 1413.33

840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855
1405.56	1405.38	1405.33	1405.18	1405.09	1405.20	1405.62	1406.24	1408.16	1409.33	1410.75	1412.17	1414.00	1415.79	1417.58	1419.37	1421.19	1422.80	1424.30	1425.49	1426.41	1426.94	1427.26	1427.29	1427.05	1426.46	1425.57	1424.44

841+00 842+00 843+00 844+00 845+00 846+00 847+00 848+00 849+00 850+00 851+00 852+00 853+00 854+00 855+00

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 14
PLOT DATE : 4/25/2018 3:41 PM
PLOT BY : JENSEN, TRAVIS G
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 44



5

5

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 15

PLOT DATE : 4/25/2018 3:41 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 873+75
PE (GRAVEL)

STA 876+80
FE (GRAVEL)

STA 881+85
PE (GRAVEL)

SEPV
SEPC

WALLS

W

T

884+80.00

SLOPE INTERCEPTS

SLOPE INTERCEPTS

870

N36° 33' 52"E
9118.18'

875

STH 13/77

880

885

ROW

STA 870+48
REMOVING SMALL PIPE CULVERTS
(60" RCCP EXISTING)

870+00.00

STA 873+35
PE (GRAVEL)

STA 875+95
FE (GRAVEL)

5

5

VPC STA
VPC EL

VPI STA
VPI EL

VPT STA
VPT EL

1400
1390
1380
1370
1365

1.23%

VCL = 251.14
K = 130.00

STA 870+48
1-24"x90' RCCP CL IV & 2-AEWS

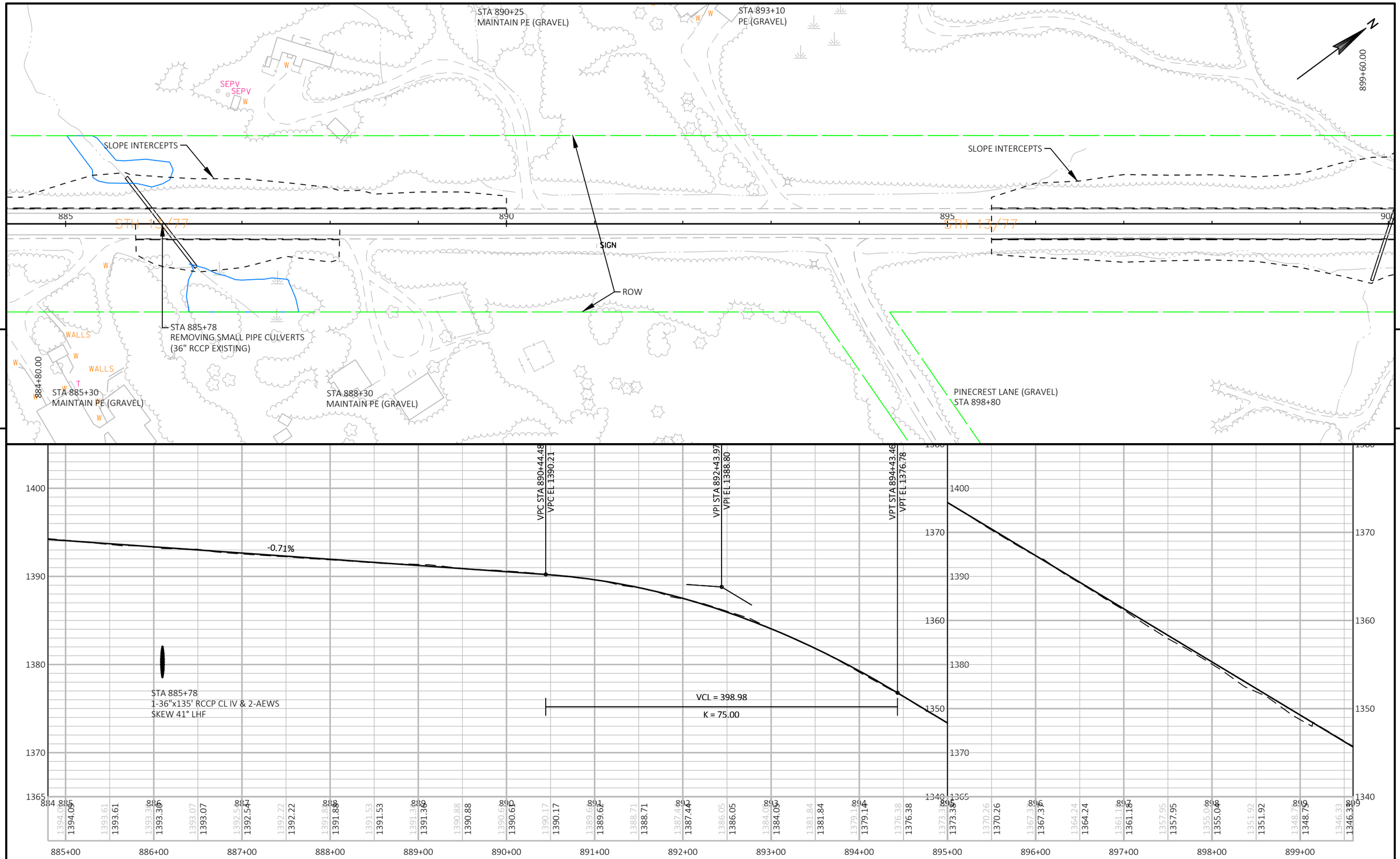
870	871	872	873	874	875	876	877	878	879	880	881	882	883	884
1379.74	1380.36	1381.02	1381.62	1382.30	1382.70	1383.53	1384.10	1384.80	1385.36	1386.01	1386.55	1387.21	1387.62	1388.21	1388.78	1389.51	1390.16	1390.91	1391.44	1391.93	1392.65	1393.20	1393.64	1394.30	1394.76	1394.93	1394.74	1394.53

871+00 872+00 873+00 874+00 875+00 876+00 877+00 878+00 879+00 880+00 881+00 882+00 883+00 884+00

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 16

PLOT DATE : 4/25/2018 3:41 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############



PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 17

PLOT DATE : 4/25/2018 3:42 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########

STA 902+45
FE (GRAVEL)

STA 907+05
PE (PAVED)

BERKSHIRE DRIVE (GRAVEL)
STA 909+22

BERKSHIRE DR

SEPTIC
SEPV
SEPV
SEPC

T

SLOPE INTERCEPTS

ROW

SIGN

900

905

910

STH 13/77

STH 13/77

SIGN

SIGN

SIGN

W

STA 899+81
REMOVING SMALL PIPE CULVERTS
(30" RCCP EXISTING)

899+60.00

STA 904+30
FE (GRAVEL)

STA 907+15
FE (GRAVEL)

914+40.00

THOMAS S

N

5

5

1340
1330
1320
1310

-6.03%

STA 899+81
1-30"x159' RCCP CL IV & 2-AEWS
SKEW 18° LHF

1310 1340
1300 1330
1290 1320
1280 1310

1290
1280
1270
1260
1255

VCL = 309.65
K = 130.00

VPC STA 908+90.03
VPC EL 1289.63

VPI STA 910+44.86
VPI EL 1280.30

VPT STA 911+99.68
VPT EL 1274.66

899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914

1343.35 1343.35
1340.35 1340.35
1337.03 1337.03
1333.88 1333.88
1331.02 1331.02
1328.09 1328.09
1325.29 1325.29
1322.29 1322.29
1319.18 1319.18
1316.25 1316.25
1313.25 1313.25
1310.20 1310.20
1307.42 1307.42
1304.40 1304.40
1301.43 1301.43
1298.31 1298.31
1295.28 1295.28
1292.43 1292.43
1289.39 1289.39
1286.47 1286.47
1283.68 1283.68
1280.85 1280.85
1278.40 1278.40
1276.49 1276.49
1274.71 1274.71
1272.93 1272.93
1270.93 1270.93
1269.12 1269.12
1267.39 1267.39

900+00 901+00 902+00 903+00 904+00 905+00 906+00 907+00 908+00 909+00 910+00 911+00 912+00 913+00 914+00

PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 18

PLOT DATE : 4/25/2018 3:42 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ############

WISDOT/CADDS SHEET 44

STA 917+20
MAINTAIN PE (GRAVEL)

STA 924+40
MAINTAIN FE (GRAVEL)

THOMAS ST

JEFFERSON AVE

END PROJECT
STA 927+00

PT: 928+58.63

STH 13/77

915

SIGN

SIGN

SIGN

PC: 920+00.57

920

SLOPE INTERCEPTS

925

STH 13/77

ROW

914+40.00

STA 916+80
MAINTAIN FE (GRAVEL)

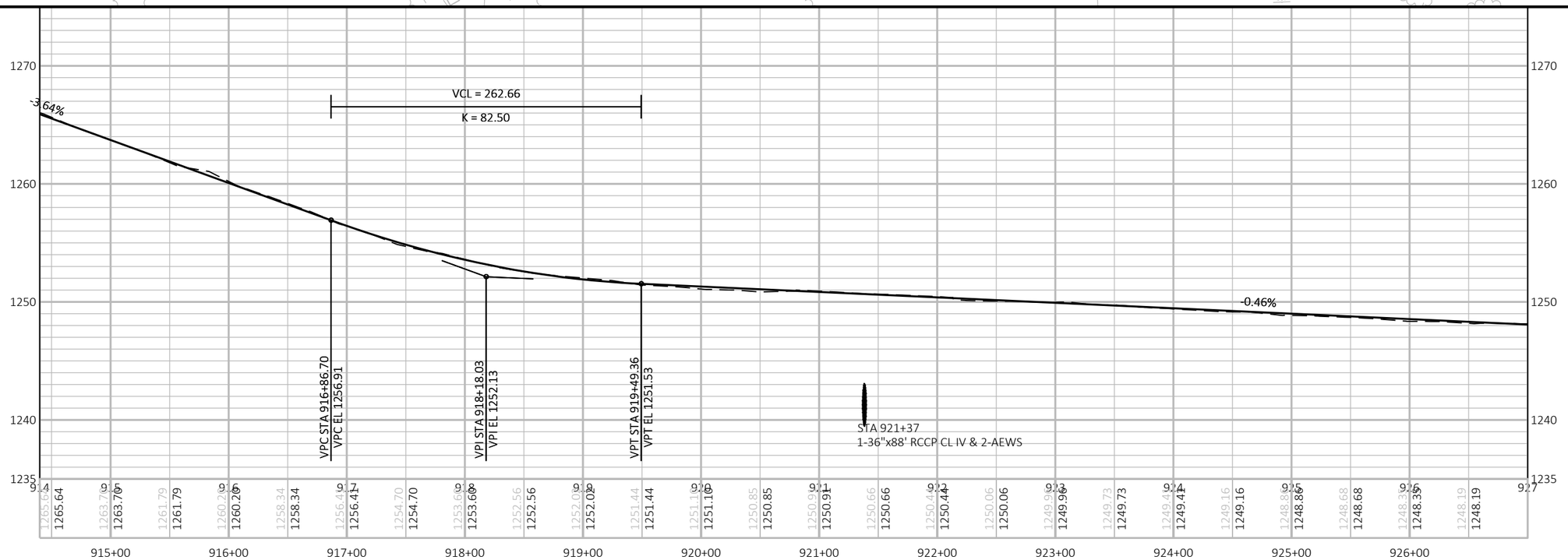
STA 921+37
REMOVING SMALL PIPE CULVERTS
(36" RCCP EXISTING)

STA 924+50
MAINTAIN FE (GRAVEL)

PI STA = 924+43.56
Y = 223901.654
X = 557284.558
DELTA = 35°07'00"
D = 4°05'33"
T = 442.99'
L = 858.06'
R = 1400.00'
PC STA = 920+00.57
PT STA = 928+58.63

5

5



PROJECT NO: 1610-08-76	HWY: STH 13	COUNTY: ASHLAND	PLAN AND PROFILE: STH 13	SHEET	E

FILE NAME : N:\PDS\C3D\16100806\SHEETSPLAN\16100806_P&P.DWG
LAYOUT NAME - 19

PLOT DATE : 4/25/2018 3:42 PM PLOT BY : JENSEN, TRAVIS G PLOT NAME : PLOT SCALE : ##########